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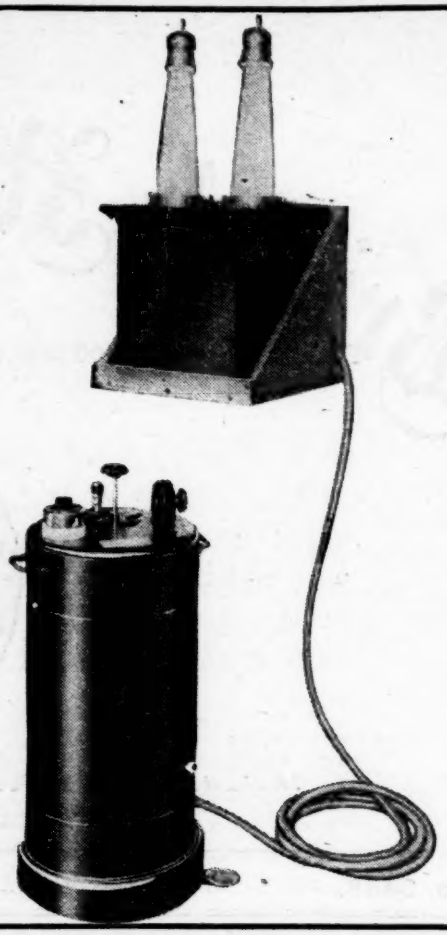

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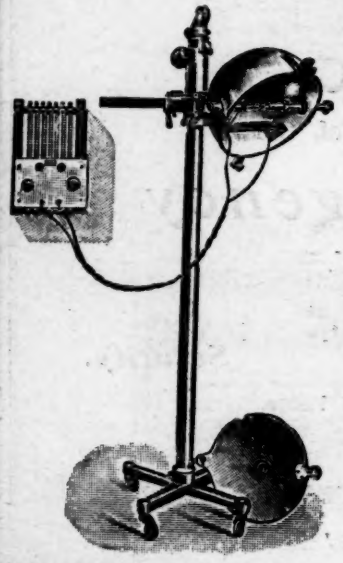

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An Address
ON
HEART DISEASE AND PREGNANCY.

DELIVERED TO THE NEWCASTLE-ON-TYNE DIVISION OF THE BRITISH MEDICAL ASSOCIATION

BY

SIR THOMAS OLIVER, M.D., F.R.C.P.,
CONSULTING PHYSICIAN TO THE PRINCESS MARY MATERNITY HOSPITAL, NEWCASTLE-ON-TYNE.

IT is now several years since I first became interested in the subject of heart disease and pregnancy. In the early part of my professional career pregnant women were not supposed to be admitted into the wards of the Newcastle Infirmary, so that my experience was mostly gained in outside consulting practice. Recently greater facilities have been afforded me of studying the problems in a practical manner in the Princess Mary Maternity Hospital with its eighty beds. My desire is to create among the younger members of the profession interest in one of the complications of pregnancy worthy of their attention and well deserving of study. Death in maternity, from whatever cause, is a tragedy of womanhood. The high death rate of women during and shortly after the puerperium is a cause of public uneasiness and calls for abatement, but I do not intend to discuss the subject of septic infection.

Although in the main a physiological state, pregnancy is beset with many possibilities which tend to endanger the life of mother and child. Severe haemorrhage, for example, may occur before or after parturition, from which the patient may apparently recover; yet in many of these women, on auscultating the cardiac area, there will be heard, years afterwards, a soft mitral systolic murmur which was not present before the excessive loss of blood. In other words, as the result of the haemorrhage the heart has remained enlarged, and, being badly nourished, has never quite regained its normal size—a circumstance which will materially affect the course of succeeding pregnancies and increase the risk of the puerperium.

The Condition of the Heart in Pregnancy and the Effect of Pregnancy upon the Heart.

As far back as 1825 Larcher, who was then an interne in the Paris Maternity Hospital, drew attention to the relationship of the two, basing his opinions upon the examination of the heart of 130 patients who had died in the hospital, most of them of puerperal sepsis. It may be taken for granted that in most of the patients the heart had been healthy except so far as it might have been influenced by the puerperal fever. It was his opinion that the human heart becomes normally enlarged during utero-gestation, that it is mainly the left ventricle which is affected, the right heart showing few if any alterations, also that during lactation the heart tends to return to its normal size unless subsequent pregnancies follow each other in rapid succession.

It is possible, as Angus Macdonald,[1] writing in 1878, maintained, that Larcher exaggerated the cardiac condition. On the other hand, it is generally admitted that pregnancy influences the quantity and quality of the blood in the body, and that there is thrown upon the vascular system increased work in order to meet the requirements of the mother and the foetus *in utero*. Larcher's views did not meet with general acceptance even by his own countrymen. One of his strongest opponents, however, was a German, Herman Lohlein, who stated that the average weight of the heart in pregnant women is not greater than that of their non-pregnant sisters. On the whole the consensus of medical opinion is that in pregnancy there is a slight increase in the size and weight of the heart, and my own experience confirms this. The average weight of the female heart between the ages of 20 and 25 years is, according to Peacock, 8¼ oz., while in the case of pregnant females it is over 9 oz. In addition to the increased weight of the heart, the blood pressure must be considered. This becomes raised, and is frequently associated, as pregnancy advances, with conditions that are dangerous. The systole of the ventricle becomes stronger and its contents are discharged under higher pressure. This physiological condition is necessitated by the maternal and foetal requirements. Obstetricians recognize that in abnormal circumstances a rising blood pressure may be the forewarning of eclampsia. At any rate, where the blood pressure rises above 150 mm. of mercury the patient should be watched, carefully dieted, and the emunctory organs maintained in good order. The blood pressure rises and wanes with the pains during the first and second stages of labour, and declines in a normal case three or four days after the confinement.

It is after the supervention of pregnancy that many women, hitherto unaware of having experienced any inconvenience in walking or taking gentle exercise, become conscious of a sense of breathlessness on exertion, and since in pregnancy there is usually a tendency for the body weight to increase, for the volume of blood to become greater, and the size of the uterus larger, this raises the question whether there is an increased cardiac output. It is this problem which Stander, Duncan, and Sisson[2] set themselves the task of investigating. The new physiology, with its carefully-thought-out methods of research and instrumental equipment, has given a fresh impetus to the study of medical problems and has compelled us to approach these in a manner impossible to be done four decades ago. The experimental method was made use of by the research workers just mentioned, dogs, non-pregnant and pregnant, being employed. Six female dogs were carefully trained so that they were completely under control, and were unlikely therefore by movement or otherwise to vitiate the results aimed at. Two of the dogs became pregnant. The results of the experiments are interesting, for the investigators found that of the four non-pregnant animals kept under observation for more than a year the heart output varied very little, also that the "minute volume" had a more constant value than the "systolic output." One circumstance particularly worthy of mention is that during oestrus the cardiac output was increased and therefore resembled in a miniature manner what takes place in pregnancy. These observers found that during gestation the cardiac output kept gradually increasing all through, until shortly before delivery the output had increased 53 per cent., and that after delivery it slowly returned to what might be regarded as the normal. The conclusion was that the cardiac output is increased by one-third to one-half during the later months of pregnancy, and since during the whole period of utero-gestation there is never a fall of the arterial blood pressure, the heart is really called upon to perform a greater amount of work. This raises the question whether this is accomplished by the heart becoming hypertrophied or simply by the organ calling upon its latent reserve. Opinions differ, as I have incidentally stated, in regard to the occurrence of hypertrophy of the left ventricle of the heart, but there is not the least doubt "that some mechanism must be called into play to meet the increased demands of pregnancy." Given a healthy heart and a normal pregnancy, the heart is capable of rising to the occasion, but it is another thing for a woman who has a cardiac valvular lesion and whose myocardial fibres are not typically sound; how will her heart bear the additional strain which pregnancy is likely to impose upon it?

Some Statistics.

Taking the records of the Princess Mary Maternity Hospital for the last three years, I find that 9 pregnant women with heart disease were admitted in 1924; 3 were cases of mitral stenosis, 3 of mitral incompetence, and 1 of aortic regurgitation, while 2 suffered from myocardial weakness. All the patients successfully passed through the process of parturition, and were able to return to their homes. During 1925 the cardiac patients admitted numbered 16; 2 were suffering from mitral stenosis, 6 from mitral incompetence, 3 from aortic regurgitation, and 5 from cardio-valvular defects, not stated, and myocardial feebleness. Three deaths occurred: one woman, the subject of aortic regurgitation, developed anginal pains, and died a few hours after her admission, undelivered; one woman was admitted in a moribund condition with mitral regurgitation, six and a half months pregnant—she died nine and

a half hours after admission, undelivered; another woman, the subject of mitral regurgitation, died a few hours after admission. There were 13 cardiac patients admitted during 1926; 8 suffered from mitral stenosis, 3 from mitral incompetence, and 2 from aortic regurgitation. One patient, a 3-para, aged 37, the subject of mitral stenosis, died ten days after her confinement from pulmonary embolism. Of the 38 patients 13 suffered from mitral stenosis, 12 from mitral regurgitation, and 6 from aortic regurgitation. Four patients (10.6 per cent.) died in the hospital. It is more than likely that in some of the patients tabulated as mitral regurgitation, stenosis was present as well.

As a contrast I will take the number of similar cases admitted into a general hospital—the Western Infirmary of Glasgow. Dr. R. A. Currie of that city has been good enough to send to me, with Professor T. Monro's permission, the number of patients admitted into Professor Monro's wards during the last ten years. The total number for that period is 27. Of these, 7 were cases of mitral stenosis, 7 of mitral regurgitation, 3 of aortic valvular disease, and 6 of auricular fibrillation. Three of the patients died, all of them from mitral stenosis and auricular fibrillation (11.1 per cent.).

There is a general feeling that, apart from myocardial failure, mitral stenosis is the cardiac lesion which gives rise to the greatest danger in pregnancy, both during and after parturition. In mitral stenosis there is the possibility of auricular fibrillation and its accompaniment—diminished heart output. H. R. Schmidt,[3] dealing with the subject of heart failure in pregnancy, reminds us that many patients are unconscious of the fact that they are the subjects of heart trouble until after parturition. Baisch examined 200 patients. He found that 50 per cent. of the women remained well, 45 per cent. suffered from failure of compensation, and that 5 per cent. died. Schmidt reported 38 cases of heart failure in 10,027 patients (0.38 per cent.): 5 of these died in hospital during the puerperium, and 5 within a year and a half after parturition. Of 12 patients with mitral stenosis, 6 died immediately after labour, the most serious cases being those with signs of myocardial degeneration, attended by irregularity of the pulse and stasis of the circulation. In heart disease and pregnancy we have to remember that the function of the heart is less deranged by the mechanical conditions incidental to pregnancy than by the consequences of decompensation—that is to say, failure of compensation where there is a valvular lesion. Failure of compensation may occur even in the early months of pregnancy and be the result of inability on the part of the heart to deal with the increasing volume of blood, so that in consequence of embarrassment of the organ the question of the advisability of terminating the pregnancy may have to be considered.

It is difficult to obtain statistics of large numbers, for, after all, the cases are comparatively few, varying from 0.38 per cent. in Schmidt's experience to 1.06 per cent. in G. A. Wagner's; and while we cannot but admit that heart disease in pregnancy is a serious complication, yet here again, as to its seriousness, reliable information is scanty. Wagner's cases numbered 80 in 8,000 pregnant women: 14 of these 80 women died directly or indirectly of heart lesions, but in 12 of these 18 women pregnancy had to be terminated as they were showing such signs of failure of cardiac compensation as cyanosis, dyspnoea, small radial pulse, tachycardia, and prostration. In many of the cardiac patients treated in the Princess Mary Maternity Hospital the second stage of labour has been rapidly gone through, sometimes occupying not more than five minutes, so that, owing to the comparatively rapid emptying of the uterus and the fall in the abdominal pressure, there is a rush of blood to the splanchnic vessels, with the possibility of fatal cardiac failure, such as has been known to occur shortly after surgical removal of a large ovarian cyst.

Heart Disease and Marriage.

Since heart disease may become a serious complication of pregnancy, we are occasionally consulted as to whether women who are its subjects should marry and thereby incur the risk of pregnancy, with its attendant dangers. There will always be a certain number of married women who do not become pregnant, but in the circumstances of a normal married life there is the possibility. Our experience is that while a cardiac patient may pass successfully through two or three pregnancies and be little the worse for the event, yet with each succeeding pregnancy the heart becomes less and less able to bear the strain—it dilates, and its musculature becomes less efficient. There is always the tendency, too, for the pulmonary circulation to become embarrassed, especially where the lesion affects the mitral orifice. When a single woman has already suffered from haemoptysis and dyspnoea, these circumstances of themselves should be a reason for the discouragement of marriage. Professor Peter of Paris was of the opinion, in view of the pulmonary complications which were likely to arise, that women with heart disease should not marry, but one of his contemporaries, Professor Jacoud, regarding the statement as too sweeping, maintained that at any rate many women could pass successfully through three pregnancies, including one or two miscarriages, without their health becoming seriously impaired. When, therefore, our advice is asked, we must carefully consider the condition of the heart, the presence or absence of dilatation of the organ, also the regularity and rapidity of its beat, the history of haemoptysis and dyspnoea, as well as the social and economic status of the patient and her prospects. Irregularity of the heart's action is one of the main dangers to pregnant women. It was the sudden death of a young expectant mother during parturition which led Sir James Mackenzie, when a general practitioner in Burnley, to study more assiduously diseases of the heart. The real danger of heart disease in pregnancy, he too thought, was not so much the existence of a particular valve lesion as the condition of the myocardium. Mackenzie regarded breathlessness and pain as indications of failure of the heart to respond effectively to effort, and he added that these are really not heart symptoms at all, but are produced outside the heart, in the lungs and nervous system.[4]

The Danger of Pregnancy to a Woman with Damaged Heart.

Apart from the effects of previous endocarditis caused by rheumatic fever, intracardiac conditions may arise during pregnancy which may render the organ incapable of carrying the patient through parturition and the puerperium. Although cardiac irregularity was the predominant feature in the Burnley patient just alluded to, it became clear to Mackenzie that there must be various types of irregularity, and that all are not equally dangerous. It is common knowledge that some women with irregularity of the heart's action can pass through the processes of parturition with apparently no ill effects, while in the case of others life is seriously endangered or suddenly brought to a close.

Recent advances in cardiology have confirmed the views, more than once expressed, that life is mainly threatened by myocardial conditions, and in these are included changes in the sino-auricular node, auriculo-ventricular node, and the bundle of His. Such secondary effects as pulmonary congestion and right-sided cardiac dilatation are also of importance. I need only briefly mention the two special nodes of tissue, the sino-auricular node close to the base of the auricles, also the auriculo-ventricular with the bundle of His running down in the myocardium and dividing into two branches, one for each of the ventricles. The impulse to rhythmic cardiac contraction originates in the tissue of the sino-auricular node, and is transmitted by the muscular fibre of the auricular walls to the auriculo-ventricular node, and therefrom by the bundle of His to the ventricular walls. The heart is supplied by branches of the vagus and the sympathetic system of nerves; branches of both of these reach the sino-auricular node, also the auriculo-ventricular, while the substance of the cardiac muscle is capable of originating beats of its own. When through disease the sino-auricular node ceases to function the auricles pass into a condition of fibrillation, but the ventricles still continue to beat at a rate and with a rhythm special to themselves. One of the results of alteration in the rhythmic discharge of impulses from myogenetic and cardiac nervous mechanisms is the occurrence of extra-systoles or of tachycardia. The

former may be traced to defaults in (1) auricles, (2) auriculo-ventricular node, or (3) the bundle of His and its branches. An extra-systole is but a single contraction due to the impulse which produces it being discharged earlier than those normally emerging from the sino-auricular node. On the other hand, what is meant by "heart-block" is an irregularity of rhythm due to some defect in the auriculo-ventricular node, or the bundle of His, whereby impulses from the sino-auricular node are not conveyed to the ventricles, and as a consequence the ventricles commence to beat spontaneously.

Cardiac Lesions Separately Considered.

The cardiac lesions met with in women are mostly mitral stenosis and regurgitation—especially the former. It is the effects and the associates of this lesion which obstetricians find play such a harmful part in the later months of pregnancy, also during the second stage of labour and afterwards. As the end of term approaches, the uterus has risen high up in the abdominal cavity, the movements of the diaphragm are impeded, for the midrib cannot contract so well as formerly, and as a consequence there occurs increased venous pressure towards the heart, with circulation stasis, attended by cyanosis and a degree of dyspnoea. The flow of blood through the right heart is delayed. In mitral stenosis in a non-pregnant woman there is usually dilatation of the left auricle and an overfilling of the pulmonary capillaries, followed by compensatory changes in the right heart. That such occur similarly in pregnant women is shown by the fairly free haemoptysis observed in many women prior to the onset of labour. When the breath is held in inspiration during the expulsive stage of labour, and the abdominal and uterine muscular contractions are strong, and when it almost seems as if the right heart could hardly empty itself, relief is brought to the overdistended organ by impulses carried centralwards by the vagus from the overfilled auricles through acceleration of the cardiac beat. The impulses referred to induce, as Bainbridge experimentally demonstrated, cardiac quickening, either by reducing the tone of the cardio-inhibitory mechanism, or by throwing the cardio-accelerator nerve centres into action. By means of this cardiac reflex there is not the least doubt that much maternal suffering and impending danger are averted.

A similar remark applies to mitral regurgitation. Instead of having, however, a small left ventricle, as in cases of uncomplicated mitral stenosis, this chamber is hypertrophied and dilated. The condition enables the heart to cope with the increased quantity of blood poured into it during diastole, so that in pregnancy, given a heart in which compensation is well established, the patient may pass fairly comfortably through the ordeal of parturition; but if, on the other hand, the mitral reflux is fairly free, there will be a degree of backward pressure towards the lungs with inefficient emptying of the right heart, so that the secondary effects come to resemble those met with in mitral stenosis.

In aortic regurgitation it is the left ventricle which claims our attention. Whatever may be the degree of blood pressure during quiescence before the onset of labour pains, the subsequent uterine contractions and those of the abdominal muscles induce a rise of the general arterial tension, and while Marey taught that increase of arterial pressure is followed by slowing of the pulse, this can hardly be said to be quite true of events occurring in the second stage of labour. As already mentioned, during the expulsive stage of labour the breathing is suspended in the inspiratory phase, and this, in conjunction with the muscular contractions, causes an increased flow of venous blood to the right heart. It is then that the Bainbridge reflex comes into play and, by accelerating the pulse rate, tends to maintain the output per beat of the left ventricle at its normal value. Nature has thus provided against serious overdistension of the heart by quickening the pulse and shortening the diastolic period. More and not less blood will thus be expelled from the left ventricle, and the circulation through the coronary arteries, which is the essential requirement, will be maintained. This is probably the explanation of how patients who are the subjects of aortic regurgitation pass through pregnancy and parturition with less risk than might be expected. In aortic incompetence the left ventricle is hypertrophied and dilated, so that the heart of a pregnant woman accommodates itself to the increased inflow and acts in accordance with Starling's "Law of the heart," whereby the energy set free by the cardiac muscular fibres when they contract varies in proportion to their muscular length. When, therefore, in aortic regurgitation with hypertrophied left ventricle the elongated muscular fibres contract they liberate more energy, there is greater endocardiac pressure, the aortic valves open earlier, the period of expulsion is probably lengthened, and the pulse quickened.

Time will not permit me now to deal with the development of heart affections after the menopause, yet probably related to child-bearing.

Treatment.

The treatment of the pregnant woman with heart disease resolves itself into treatment during pregnancy, parturition, and the lying-in period. If the cardiac lesion is well compensated, and there is no embarrassment of breathing—if, in a word, the patient differs in no respect from a healthy woman similarly circumstanced, then all that is necessary is to keep her under observation, diet her, regulate her exercise, and keep the emunctory organs in good condition. If the blood pressure remains in harmony with that of the average of healthy women, the chances are that the patient will pass through pregnancy and the puerperium without risk. The cases which make us anxious are those in which towards the end of pregnancy the pulse becomes rapid, feeble, flickering, or irregular, but even for such patients much can be done by keeping them in bed and giving digitalis in increasing doses if required. The first stage of labour, if not unduly prolonged, may not be more oppressive than in other patients, although the accoucheur must be on the lookout for signs of fatigue. It is the second stage which calls for careful attention on the part of the obstetrician, so that he may shorten it by the application of the forceps, if there are signs of fatigue or of cardiac failure; or if there is difficulty of breathing, that he may administer oxygen and give hypodermically strophanthin, digitaline, or strychnine, and on the expulsion of the placenta see that abdominal pressure with the hand is maintained. The anxiety of the accoucheur is considerably relieved once parturition has been successfully passed through, but, during the lying-in period, cardiac patients, particularly those with mitral stenosis, require watching for a week or two.

It is desirable that the women of the working classes, particularly those who are the subjects of heart disease, should, if they become pregnant, report themselves at an ante-natal clinic, and, before the end of term, enter a maternity hospital, where, under the supervision of a resident medical officer, eventualities of all kinds may be anticipated and dealt with. I can speak most encouragingly of the good results which have accrued from following out this recommendation. In a general way, even women who are believed to be healthy would benefit, where circumstances permit of it, by reporting themselves at an ante-natal clinic one month before the expected termination of their pregnancy. Where there is no clinic or maternity hospital close at hand a woman who is the subject of heart disease should certainly see her own doctor shortly after she believes herself to be pregnant, and obtain from him advice as to what her line of life should be, what she ought and what she ought not to do; for if her condition, cardiac and general, is such as to cause anxiety and is likely to be attended by risk to her own life, the doctor might, by keeping her at rest at home and treating her with heart tonics, help to carry her safely through her confinement; or—and this might often be better—arrange for her admission into a maternity hospital, where she would have the prescribed rest and medical attention. A pregnant woman with heart disease need not wait until "quickening" takes place before reporting herself to a doctor.

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An Address
ON
PROFESSIONAL REGRETS.*

BY
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I WAS asked some months ago to take part in a discussion on "Professional regrets," and agreed to do so. A fortnight ago I was rather staggered by a request from your secretary that I should open the discussion—a very different matter. I take it that my duty is to say a few words on each of a series of subjects that may be discussed by those who follow me, and to point out traps for the unwary. I hope that none of my remarks may give any offence. If they do I shall have added yet another to my professional regrets.

Pre-cancerous conditions or very early carcinoma of the uterus.

A case which caused me very great regret was the following:

A woman, aged 57, three years after the menopause, had had for about a year a good deal of vaginal discharge, with sometimes slight bleeding on douching. The vaginal mucous membrane was normal, the external os small, virginal. There was a small, raw-looking patch on the vaginal portion of the cervix. The body of the uterus was distinctly enlarged. I could not cause even the slightest oozing of blood. I wanted to explore the interior of the uterus, but she was a very busy woman, and begged to put it off. She promised to let her doctor know, and to submit to dilatation of the cervix and exploration of the interior of the uterus, if there was any return of bleeding. I heard nothing more of her for thirteen months, when she came back to me. She had quarrelled with her doctor soon after I saw her, and had seen no other doctor, in spite of having had practically continuous slight bleeding ever since I saw her. I found that she had extensive carcinoma of the body of the uterus. I regretted that I had not insisted on her having the interior of the uterus explored, even if it meant telling her that I feared malignant disease.

This was rather an exceptional case. I have generally found that, if a patient gives a definite promise that she will come back if symptoms recur, one can rely on her to do so, but there is always a danger of a patient changing her doctor and telling the new one nothing. I very much regretted that I had not been firmer with this patient.

Not examining under an anaesthetic.

If one does not feel reasonably certain about a patient's condition one ought to insist on an examination under an anaesthetic. This is almost axiomatic. In hospital practice examination under an anaesthetic is an everyday occurrence, and one has often had two or three examinations under anaesthetics at the end of a long operation list, but it is not always easy to insist on in private practice. It is specially important in any painful or acute abdominal trouble occurring during pregnancy when one is handicapped, not only by the tenderness, but by the presence of a large tumour. One ought to insist on an anaesthetic, and to say that one is so much handicapped that a definite opinion cannot be given without it. In one case in which I thought that the patient was suffering from red degeneration of a fibroid during pregnancy I foolishly agreed to a policy of "wait and see," as she was tremendously keen on having a living child and afraid that any interference, however slight, might bring the pregnancy to an end prematurely. I waited too long, and found eventually that the "tumour" which I had noticed was due to volvulus. Examination under an anaesthetic two days earlier would have shown that the tumour had no intimate connexion with the uterus, and would have led to immediate and probably successful abdominal section.

Another case in which I ought to have examined under an anaesthetic is worth quoting at some length.

In 1906 a patient, aged 31, came to me for advice about an abdominal tumour which had been diagnosed by her own doctor and by a well known gynaecologist as uterine fibroids. There were two large, hard, round swellings, one behind the uterus and the other on top of the lower one, reaching up to 1½ inches below the umbilicus. She had no symptoms of any sort. I agreed that the tumours were uterine fibroids, and told her that operation would probably be necessary later, but was not specially indicated at that time. In 1914, eight years after I had first seen her, she was seized with abdominal pain. I opened the abdomen, and found that each tumour was an extraordinarily large pyosalpinx, filled with a putty-like matter, infected with *B. coli communis*. The right one had just begun to leak. I left both ovaries and the uterus behind. She made a perfectly smooth recovery, and is in excellent health now, but I felt that I had let her run an absolutely unnecessary risk. A history of an illness at the age of 6 suggested that she had had tuberculous peritonitis, and that the tubal trouble was tuberculous in origin.

Not having the rectum and bladder emptied in a difficult case.

I think that regrets connected with full bladder and imperfectly emptied upper part of the rectum and sigmoid colon are probably associated with early days in practice, because most men learn then the dangers of the bladder-and-faecal-masses-trap and avoid them carefully afterwards. In the women's medical wards at the London Hospital there was for some years a rule that if a request note was sent to me to see a patient she must be given an enema at once, before I came, as otherwise I should probably say that I refused to give an opinion until this had been done. I was once just saved from opening the abdomen for what seemed to be the most perfect case of cornual pregnancy that I have ever seen. The rectum was empty when I saw her, but she was given an enema later because she was to have an operation. The doctor was so much struck by the aged appearance of a scybalous mass removed by the enema that he asked me to examine her again before she went to a nursing home. I did so and found a normal pregnancy. I was brought up to empty the bladder and to examine per rectum in every doubtful case, and this early training has saved me from many regretful occurrences, though once, to my shame, I opened the abdomen for a bladder which had been distended for at least a fortnight in a medical ward. I can only plead that I was very young at the time, but I was old enough to have known better, in spite of regular micturition. The value of routine rectal examination was well shown by one case in which I was asked to give an opinion. I examined the patient and said that she had two large hard faecal concretions in the rectum. I was then asked, "What about the uterine fibroids?" I said, "She has not got any." The retort was, "She is going to have abdominal hysterectomy for fibroids to-morrow." The upshot was that I removed the faecal concretions with a lithotomy scoop and she was allowed to keep her uterus.

Induction of premature labour.

Here again I may get myself disliked, but I cannot help it. I have been asked to talk about professional regrets, and I must be truthful, nothing extenuating nor setting down aught in malice. *The* essential after induction of premature labour is that nature should be interfered with as little as possible, any unnecessary intervention being likely to be dangerous to the life of the infant. Artificial rupture of the membranes, because the progress is slow, is a most dangerous procedure. The head is not meant to act as a dilator of the cervix—the bag of membranes is there for that purpose—and the head ought to be spared any unnecessary pressure. Delivery with the forceps three or four weeks before term, unless only by gentle coaxing, is a dangerous procedure, as an amount of compression that would do no harm to the fully ossified skull may cause fatal damage to the imperfectly protected brain, while moulding due to the natural forces, spread over a few hours, is unlikely to be harmful. If one does not know from experience that the patient's doctor in the country is a man with sufficient knowledge of midwifery to look on, to treat the labour with masterly inactivity—in other words, a man who realizes that patience is the most important quality in the make-up of an accoucheur—it is one's duty to insist on the management of the case oneself. Do not think that I often insist on this; on the other hand, I have never done so, but I have twice regretted it deeply, as the

* The opening paper in a discussion at the Chelsea Clinical Society.

baby was killed by unnecessary use of the forceps before the natural forces had been given a chance. What I regretted was that I had not rubbed in the virtues of patience—a difficult thing to do when dealing with a man who had probably attended more confinements than I had. I have sometimes regretted that I had not induced labour prematurely, but I have never regretted inducing it. I think that it is a method of immense value in the treatment of minor degrees of contraction of the pelvis.

Not giving sufficiently definite instructions as to treatment after operation in strange nursing homes.

Surgeons are sometimes accused of being fussy and disobliging because they are unwilling to perform severe operations in any nursing home which they do not know well. They ought not to be blamed for this, as it is usually done entirely in the interest of their patients. I have several times regretted that I had gone to a strange nursing home at the request of the patient or her doctor. In one case I performed Wertheim's hysterectomy for extensive carcinoma of the cervix in a very fat woman. We left her in a warm bed in a warm room at 10.30 a.m. with a good pulse, and the doctor, the anaesthetist, my assistant, and myself were all very well satisfied with our work and considered that the patient had at least a 20 to 1 chance. I was telephoned to soon after 2 p.m. and told that the patient had died suddenly. I went straight to the home and was told that the patient came round well from the anaesthetic, with a good colour and a good pulse, and that as she was rather restless and uncomfortable they propped her up in bed with four pillows. Directly after they had propped her up she died suddenly. Was this to be wondered at when she had just had a severe operation, and had been in the Trendelenburg position for about an hour and a quarter?

I was rung up a few hours after a hysterectomy during pregnancy, and told that the patient was very much collapsed and that they were very anxious about her. I was too far away to get there in time to do anything, so I asked about her position, and was told that she had two pillows. I said that they must be removed and the foot of the bed must be raised. A few hours later I was told that her condition was excellent. In any of the homes in which I am accustomed to operate the first patient would probably have lived and the second would have caused no anxiety, as common-sense after-treatment would have been looked on as a part of the nurse's duty, and I should have known that all the nurses were competent; but in these two cases I regretted that I had not given definite instructions, even at the risk of causing offence to an experienced nurse. In strange nursing homes I have sometimes regretted that I had not inspected the patient's room before the operation. If I had done so the patient would not have been taken from a warm theatre, on a cold day, to a room with a miserable fire and both door and windows open. One may find the patient before operation, clad in a Gamgee jacket and a dressing-gown, with thick stockings on and a blanket wrapped round her thighs and legs, enjoying the fresh cool air, but during the operation the bed and the room ought to be warmed thoroughly.

On another occasion my anaesthetist helped to take a patient back to bed, removed several hot-water bottles, and said that they were not to be replaced until she asked for them. I followed him up and repeated his instructions. When I inquired from her doctor a few days later about her progress he said, "She has done very well, but she has a horrible burn over almost the whole outer surface of her right upper arm and forearm." I said, "How on earth could she get burnt when both my anaesthetist and myself made certain that no hot-water bottle was in the bed?" He answered, "Oh, soon after we had all gone they put a hot-water *bed* under her!" Some people consider that a nurse is a nurse, and do not agree that there are nurses and nurses, and even in a fairly good home one may find on inquiring that a special nurse, an absolute stranger, has been engaged to look after the patient, arriving about an hour before the operation and allowed to act on her own responsibility. If this is found out in time very definite instructions indeed are given, feeling one's way so as not to give offence if the nurse is competent; but if it is not found out in time there may be many regrets. There is the very uncomfortable feeling that the patient has put herself in one's hands, and that one has let her down if all the arrangements are not perfect.

Not taking one's own anaesthetist and assistant to a difficult case.

I realize that I am treading here on rather dangerous ground, but feel that I ought to have the pluck to say something on this point. I wish to say first of all that among my general practitioner friends are some of the best anaesthetists and assistants with whom I have the privilege of working; but there are others! An anaesthetist is born, not made. I have had perfect anaesthetics given to my patients by newly qualified men of very small experience, and have laboured, toiled, and been filled with anxiety and dread as to the immediate and after results of anaesthetics given by men who have studied the matter deeply and done their utmost to improve their skill in the art of inducing anaesthesia. To insist on having one's own anaesthetist may require some moral courage, and may give offence, but it is one's duty to stand out for it if it be considered, from past experience, that the patient's safety is jeopardized. The difficulty of the operation, especially if it entails deep pelvic work, is enormously increased if the patient strains and coughs throughout, and the wear and tear to the operator is doubled or trebled if he has intestine shooting into the pelvis whenever he has a sharp instrument inside that cavity. Apart from the increased danger of the operation, the patient will suffer far more from vomiting, distension, and abdominal discomfort during the first few days, and will run risk of bronchitis. When I have been weak enough to accept a second-rate anaesthetist or assistant I have regretted it bitterly, because of the exhausting fatigue and anxiety caused to myself, even although my anxiety about the patient has been of short duration as I heard that she was doing very well. Team work produces the best results, and the operator ought not to have to worry about the anaesthetic, or about the asepsis of his assistant. To look up in the middle of a difficult job and see his assitant arranging, with his gloved hands, his spectacles and the mask through which he has been breathing for half an hour, adds greatly to the worries and anxieties. Unlike the art of inducing anaesthesia, an aseptic technique is never inborn, but has to be learned by experience and instruction. I think that some men who do not operate themselves are rather inclined to consider an operator to be fussy and neurotic if he expects an anaesthetic to be perfectly given, and that he ought not to take it as more than a "rub of the green" if gag, tongue forceps, and throat swabs are used throughout, with artificial respiration only at infrequent intervals. This sort of anaesthetic would not matter much if a toe was being amputated; it is not only disconcerting but really desperately dangerous in abdominal and pelvic surgery. I have not really had much to complain of recently, as most men are very sensible on these points, but I have had some regrets in the past.

Not reopening the abdomen soon enough when symptoms of intestinal obstruction come on a few days after an abdominal operation.

Intestinal obstruction is not as common after gynaecological operations as it was formerly, because an attempt is always made to cover up with peritoneum any raw surface or stump and to prevent any oozing after operation, but in some cases, particularly old pyosalpinx cases, it is difficult to find any peritoneum loose enough to be sutured over a raw surface. I can remember five cases of intestinal obstruction after operation. The first was after myomectomy from the posterior surface of the uterus. Practically the only symptom of which the patient complained was pain. As she was having a monthy period, and always had severe dysmenorrhoea, I was deceived, and delayed opening the abdomen for too long, and she died

soon after the second operation, in which a coil of small intestine was freed from an adhesion to the suture on the uterus. Delay is most dangerous, if not fatal, in such a case. The surgeon has a natural objection to reopening the abdomen, and is tempted to delay and hope for the best, but the proper treatment is to harden one's heart and explore as soon as suspicions are aroused. The other four cases—in three of which I had performed the first operation myself, while in the fourth the first operation had been performed by one of my colleagues—were ovariotomy, pyosalpinx with terrible adhesions, pyosalpinx, and severe bleeding from an ovary. Profiting by my experience in the first case I lost no time in operating on these four, and they all recovered. I have never ceased to regret that I had not sufficient common sense to explore the abdomen of the first patient as soon as she looked ill and complained of pain, as, if I had done so, she would almost certainly have lived, as the adhesion was easily dealt with.

Not strapping the abdomen when a patient has a cough during the first fortnight or so after an operation.

I have regretted bitterly that I had not reinforced the stitches, or the recently united tissues after removal of stitches, by carefully applied strapping, when a patient has developed a cough after an operation. If the cough is violent the abdomen is strapped almost as a matter of routine, but it is important to remember that a patient who has a mild, fairly harmless cough may cough violently once or twice when she wakes up after several hours' sleep and finds some tenacious mucus in her throat, difficult to dislodge. I can only remember two cases in private practice in which patients have burst the wound open by coughing. I ought to have strapped the wound in both, and have regretted ever since that I did not do so. One patient died a fortnight later, the other recovered.

There are some cases in which I have had *no regrets*. In some of these I have told a patient that in my opinion no operation was necessary, and have later heard that she went on to someone else, who sent her into a nursing home immediately and operated the next morning. I find that I spend a good deal of my time in advising patients to avoid operations. Some of them are exceedingly grateful, but some go straight to another man. One case in which I was given most fulsome thanks may be worth a detailed account as showing how difficult it is to prophesy what a patient will do.

A man, whom we will call Mr. H., rang me up on the telephone and said, "What would you charge to operate on my wife?" I naturally said, "What is the matter with her?" He answered, "It is the womb." I said, "I am afraid that I cannot give an opinion without seeing your wife." He replied that he thought that I would be able to suggest a fee without seeing her, so I said, "If you telephoned to a bootmaker and asked how much he would charge to mend your boots, would he not say, 'Let me see your boots?'" "Doctor, there is something in what you say; I will bring my wife to-morrow." I examined her, a multipara of 54, some years after the menopause, with a very loose abdominal wall, backache, and dragging sensation, with several small fibroids and retroversion of the uterus. She had seen many gynaecologists in Germany, some of whom had advised operation while others had advised against it. The patient said that she wished to avoid an operation. I suggested that an abdominal belt might give her a great deal of comfort, and she said that she had had one which had done her a lot of good, but it was worn out. The husband said, "Doctor, you are a British sport. Before the war I used to say, 'Go to the Continent for an opinion,' but since the war I say, 'No, stick to your own men!' No one has asked the questions that you have asked, no one has taken so much trouble, no one has suggested a belt. Doctor, I thank you, you are a British sport; we will go and get a belt." Two days later I met a medical friend who said, "You remember Mrs. H.?" I said, "Yes, she's going to try an abdominal belt." He said "No; she went on from you to Y, and then to Z, who put her straight into a nursing home and operated on her yesterday morning!"

TREATMENT OF ENCEPHALITIS LETHARGICA BY THE REMOVAL OF POSSIBLE ETIOLOGICAL FACTORS.

BY

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PART I, BY A. L. YATES.

SOME four years ago I began an investigation of the nasal ciliary mechanism, and found that the ciliated epithelium formed definite tracks which functioned in a backward direction so that mucus rolled over any particles introduced within the nose, and conveyed them backwards into the nasopharynx along certain definite paths.[1] This led to a further investigation of the ciliary and secretive mechanism, and the nasal mucous membrane in inflammatory states, and it was found that four groups of conditions could be observed—namely:

1. Those in which mucous secretion was excessive and the cilia active.
2. Those in which mucous secretion and the cilia remained active, and to the mucus was added serum and leucocytes, forming yellow muco-pus. In neither of these conditions was there any alteration in the staining power of the mucus, nor could the micro-organisms which were visible microscopically in the mucus be cultivated.
3. A condition in which the mucus became altered, apparently as a result of the action of the bacterial ferments, so that the mucus stained with aniline dyes, such as indigo-carmine. In this group cases were met with where the cilia were more than normally active, and where the mucus was conveyed backwards into the nasopharynx, causing in and around its path a chronic inflammation of the mucous membrane, and thus producing laryngitis, tracheitis, and oesophagitis. In another group of cases the cilia were less than normally active, and the altered mucus remained in the sinuses and in the nose. In Types 1, 2, and 3 an anterior nasal discharge appeared when mucus or muco-pus was greater in amount than the cilia could convey away into the nasopharynx.
4. In this group I found cases in which the cilia and mucous secretion were paralysed, so that the organisms which can often be obtained in pure culture from the interior of the sinus were present in a brownish watery solution containing the remains of leucocytes—that is to say, of water-soluble pus.

Certain cases in Group 4 showed the presence of toxic absorption and suffered from various complaints, such as periarticular rheumatism, neuritis, neurasthenia, skin complaints, and similar conditions. Other cases in this group showed no such signs of toxic absorption.

In order to determine the reason why some of the cases in this group had toxic absorption and others not, a solution of 0.4 per cent. indigo-carmine or 0.01 per cent. phenol-sulphonephthalein was placed in the sinus. In the cases which showed signs of toxic absorption of nasal origin this dye appeared in the urine in from ten to fifteen minutes. In cases without toxic absorption, or in cases in which the sinuses were all relatively normal, or if swallowed, the dye did not appear in the urine.

Toxic absorption from the mucous membrane would therefore appear to be prevented in the early stages of inflammation by mucous secretion, and in the late stages by deposit of fibrous tissue.

The Nasal Condition in Encephalitis Lethargica.

Various writers on encephalitis lethargica have drawn attention to the presence of nasal and buccal discharge in practically all cases, and I found paralysis of the cilia and mucous secretion in fully developed cases in the posterior portion of the nose—that is to say, in the ethmoidal recess, the posterior ethmoidal sinuses, or the sphenoidal sinus—and that such inflammation tended to spread both forwards to the mucous membrane of the nose

and downwards to the mouth, causing an excess of mucous secretion in both these situations.[3] The dye, if it could be placed in the affected area, appeared in the urine in about fifteen minutes.

This condition could be brought about either by a single acute nasal infection of the type known colloquially as influenza, in which it could be demonstrated that the mucous membrane of the nose passes in a few days, or even hours, from the normal to a condition of paralysis of the cilia and mucous secretion with toxic absorption, or by a chronic inflammation producing a like result in months or years. Cases of encephalitis lethargica give a history which will correspond either with an acute attack of influenza or a chronic type of nasal infection, but due regard is to be paid to the fact that both influenza and chronic rhinitis are very common conditions.

Dr. Stanley Barnes[2] made the suggestion that it was this permeability of the nasal mucous membrane which permitted the virus of encephalitis lethargica to enter the tissues and to reach the nervous system, probably by the perineural lymphatics. A critical review of this work appears in the *Bulletin of Hygiene*.[4]

Treatment of the Nasal Condition in Encephalitis Lethargica.

It was clear that if this hypothesis was correct any treatment which diminished the permeability of the mucous membrane to toxins would have the effect of diminishing the absorption of the virus of encephalitis lethargica into the tissues, but that it would have no effect upon any areas in the brain already destroyed by the virus, and therefore that the most that could be expected as a result of such treatment would be that in chronic cases recrudescences of the disease could be prevented, and in acute cases at best the damage to the brain could be limited to such areas of damage as had been total and had occurred before sinus treatment was adopted.

Method.

The nasal mucous membrane having been anaesthetized by spraying with 5 per cent. cocaine in 1 in 1,000 adrenaline, a cannula of a diameter of a millimetre or less and suitably curved is, under direct vision, passed over the middle turbinate and thus to the front of the sphenoidal sinus. On rotating the cannula gently the end can be felt to slip into the sphenoidal sinus; a syringe is then attached and by suction some of the contents withdrawn for cultivation. The sinus is then thoroughly washed out with saline. The posterior ethmoidal sinus can also in some cases be reached. In a certain number of cases even with full cocainization it is not possible to pass a cannula between the middle turbinate and the septum; it is then necessary to pass the cannula beneath the middle turbinate and thus reach the spheno-ethmoidal recess. By this route the sphenoidal sinus can occasionally be reached, but this is not generally the case.

Treatment consists of giving a vaccine in increasing doses and of washing out the sinuses again if the patient ceases to improve. Improvement on washing out the sinuses is often marked, generally after a few days, but the patients tend to relapse, and on the average the washing out must be repeated every month or six weeks. In addition to the above the patient uses a douche consisting of menthol 2 grains, eucalyptol 20 minims, and liquid paraffin to 4 ounces. A medicine dropper full is injected into each nostril three times a day while lying on the back with the head thrown well back.

Relative Value of Various Treatments Used.

It is difficult to arrive at a conclusion as to whether the washing out of the sinuses or the use of vaccines produces the greater effect, but many patients have stated that the most marked improvement has followed the washing out. It appears to be doubtful whether an autogenous vaccine produces more effect than simple protein shock, but an autogenous vaccine has been given in all patients who were the subject of this investigation. In those who gave a history of chronic and intense rhinitis for some years bacteriological examination showed either the bacillus of Friedländer or the pneumococcus; in those in which encephalitis lethargica followed an acute or influenzal rhinitis the *Staphylococcus aureus* alone or together with the pneumococcus was generally found.

The postural deformity of encephalitis lethargica has apparently some bearing on the course of the more chronic forms of the disease, for patients in whom the postural deformity is not dealt with by remedial exercises appear to reach a stage in which, although the mental symptoms, etc., have ceased, the patient still has a Parkinsonian gait and posture.

For a year all patients have been taught exercises, which they do in their own homes, or, in the more severe cases, under the guidance of a masseuse; these exercises have effected a marked improvement in their condition, both in preventing the ready fatigue from which these patients suffer, and in enabling them to get rid of the difficulty in balancing which is such a marked feature in many, so much so that it has seemed that in the patients in whom imbalance was most marked the faulty position of the labyrinth relative to the remainder of the body was a factor in the production of symptoms. The exercises, in addition, train to the highest point of efficiency such nervous structures as remain undamaged, and thus reduce the deformity caused by a deficient action of the areas of the brain which have been destroyed.

PART II, BY G. EDEN.

The diagnosis of many cases of epidemic encephalitis in the acute stage is often very difficult, and in the less severe cases of a chronic nature must be a matter of opinion, as, up to the present, we have no means of absolute proof of the correctness of the diagnosis. But there can be little doubt in those cases in which Parkinsonian symptoms develop, either after an acute febrile illness with gross disturbance of sleep, paresis of an ocular muscle, diplopia, or loss of accommodation and retention of the light reflex.

Though the Parkinsonian form of encephalitis lethargica is the most liable to be progressive and the most resistant to treatment, our description of the results of washing out the sinuses in the chronic cases has been limited to cases of this type. One advantage of this limitation is that almost all the patients had previously had several, if not all, of the many treatments usually advocated for the sequelae of encephalitis—for example, tonics, belladonna, massage, hyoscine, protein shock, etc. The only essential difference in our treatment has been the washing out of the sinuses, and the regular use of nasal antiseptics, but the majority had weekly doses of an autogenous vaccine prepared from the organisms found in the sinuses. The washing out was repeated in many cases, a return of drowsiness, headache, and apathy being the usual indications.

Striking and immediate improvements were often observed as a result of the first washing out, and patients generally volunteered the statement that the washing out of the sinuses caused greater improvements than the use of vaccines. The fact that almost any new treatment for encephalitis often produces a short temporary improvement has not been lost sight of, and the writing of this paper has been delayed until the effects of washing out the sinuses had been observed for a period of at least three months in any one case; in the majority of instances cases have been observed for over a year after treatment was begun.

It is not claimed that this is a cure, but it appears to us to be a remedial measure of great value in association with drug treatment; where drugs alone have been useless, a washing out, followed by the same drugs, often produced a good effect.

The frequency with which patients relapse, and the fact that these relapses are improved or prevented by one or more washings out, suggests that the absorption of toxins is interfered with, and to a great extent prevented, by disinfection of the nasal mucous membrane. The usual results of washing out the sinuses has been almost immediate improvement in the patients' symptoms. They feel brighter, find themselves capable of doing more for themselves in their homes, become less rigid, and the face becomes less mask-like. There has seldom been any marked improvement in the mental condition of the chronic cases. The following are typical of the results obtained in many chronic cases.

Case 1.—A woman, aged 23; an extreme case with well marked Parkinsonian symptoms. Two years earlier she had had an acute illness with great drowsiness, and diplopia followed by rigidity of all limbs. A year ago she was considered a hopeless case by several competent authorities; for six months she had been unable to feed herself, and for over a year had not been out of bed.

Four days after a washing out she was able to feed herself slowly and with difficulty, and three weeks later she walked out of hospital. Her expression was less wooden, though all muscles were still spastic.

Case 2.—A woman, aged 19, with a history of acute febrile illness eighteen months earlier, with extreme insomnia, sialorrhoea, and marked alteration in character. She had a well marked Parkinsonian mask. All movements were slow and stiffly performed. She improved in all respects after the sinuses were washed out. She regained normal sleep, salivation decreased, and her expression was less wooden.

Case 3.—A woman, aged 23, who two years and nine months earlier had an acute illness; she was unconscious for twelve weeks. When first seen she had much salivation, was very lethargic, had a mask-like appearance, and was said to have violent fits of temper. She was discharged from hospital after a washing out; a month later she was much improved in appearance, both mentally and physically. Her bad temper became less obvious, the salivation was cured, and her whole outlook on life seemed altered.

Case 4.—A woman aged 23. A very advanced case dating back two years. It would be difficult to imagine greater rigidity of all muscles. She was unable to stand or to feed herself and could hardly speak. She had seen twenty-eight medical men before she came to us. A washing out caused a rapid and definite change in her condition. Four months after discharge from hospital she could walk two miles a day—doing the distance in less than an hour—could feed herself, and read aloud for an hour at a time.

Case 5.—A male, aged 24, in March, 1923, had an acute febrile illness lasting three weeks, with severe insomnia, diplopia, and delirium; no diagnosis was made at that time. Seen in August, 1925, he had a definite Parkinsonian mask, and some rigidity of the right arm. His brother stated that he had altered in character very considerably. After the first washing out he expressed himself as feeling much better. Concentration, which had been much impaired, began to return, the face became less mask-like, and the arm less rigid. In October, 1925, he stated that he was free from symptoms and that mental power had been completely regained; he returned to research work of a very intricate nature.

Case 6.—A woman, aged 32, gave a history of eighteen months' illness, starting with fever, diplopia, and drowsiness. She had the Parkinsonian mask, left ptosis, marked tremor of the right hand and arm, which were useless for all practical purposes. After a washing out she was discharged; a month later she was much improved, the tremor had almost ceased, the grip was good, and her expression was brighter.

In addition to these cases one patient recovered to a great extent, but had a severe relapse six months after discontinuing treatment. Another patient of feeble physique and in a very advanced state made no appreciable progress. Five out-patients, all of whom are improving, are unanimous in ascribing the change to the washing out, and are most emphatic on this point.

We have also had many patients under similar treatment suffering from the cardinal symptoms of encephalitis with the exception of a mask, but the absence of this renders the diagnosis incapable of proof. For the most part they have been less advanced cases, and the improvement after washing out has been considerably more marked than that which has occurred in the majority of patients described above.

We have had little opportunity of treating cases in the acute stage, and none of them has developed a mask.

Acute Cases.

1. A woman, aged 34, was sent to hospital as a case of encephalitis with a four weeks' history of extreme drowsiness and diplopia. She was washed out twice; when seen six months later she said she felt perfectly well, and was bright and cheerful in appearance. She had no tremors, mask, or spasticity of limbs, and vision was normal, but she owned to being more irritable than before her illness.

2. A woman, aged 20, gave a history of three weeks of pyrexia and sleeping "nearly all the time." There were no other symptoms, but she was sent to hospital as a case of encephalitis in the midst of an epidemic. She was discharged ten days later, after a washing out, and is now back at her work, apparently completely cured.

3. A man, aged 35, was admitted with six days' history of unexplained fever, severe insomnia, tremor and spasticity of hands, and feet in position of tetany, fixed expression, and irrational speech. Two days after a washing out the temperature fell to normal, his mind became clearer, and the limbs which had been spastic became looser. The expression returned to his face, and he was able to get up two weeks after admission.

The total number of cases treated has been 64, and of these 45 have had a Parkinsonian mask.

CONCLUSIONS.

1. It is suggested that the infection in encephalitis lethargica is a symbiotic process, that in the first place the nasal mucous membrane is damaged by one of the catarrhal group of organisms, and that subsequently the virus of encephalitis is inhaled, passes through the damaged mucous membrane, and thus enters the tissues, reaching the brain possibly by the perineural lymphatics.

2. In support of this there is a fair amount of evidence that for the transmission of the disease from one individual to another the virus of encephalitis lethargica must fall on mucous membrane previously altered by inflammation of such a character that its power of absorption of fluids in contact with it is greatly increased.

3. The initial damage to the nasal mucous membrane is generally remediable by treatment, and if remedied it would appear that the virus of encephalitis cannot pass into the tissues, and patients become more susceptible to treatment by drugs.

4. Nasal treatment aims, not at curing encephalitis lethargica, but at preventing admission of fresh virus into the tissues.

5. In those cases where actual destruction has occurred in the central nervous system (a system in which regeneration is impossible) the most that can be claimed for washing out the nasal sinuses is that further irreparable damage is hindered, and in many cases appears to be prevented.

6. The Parkinsonian gait and posture is rarely completely removed without the use of remedial exercises.

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APPARENTLY COMPLETE RECOVERY FROM ENCEPHALITIS LETHARGICA OF THE BULBAR TYPE.

BY

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NOTWITHSTANDING the large number of cases on record, knowledge of encephalitis lethargica is too recent to permit neglect of any clinical material which might serve to illustrate points of diagnostic or prognostic importance. The following case, which was of a very severe type, recovered without any special treatment, and will be found to present some interesting features.

A man, aged 33, was admitted to the Eastern Hospital, London, on April 3rd, 1926. There was a history of two days' illness, which was suddenly ushered in by severe headache with nocturnal delirium. Vomiting and constipation were also complained of, and his medical attendant regarded the case as one of influenza. His condition on admission was as follows. Tongue lightly coated; fauces congested with a collection of mucus in the pharynx; left side of the face immobile; pupils contracted, but no strabismus. He could answer questions rationally, but cerebration was delayed. No pain was complained of, but he had some difficulty in deglutition. The knee-jerk was exaggerated on the right side, and right ankle clonus could be elicited. Babinski's and Kernig's signs were not present. Examination of the heart and lungs revealed nothing abnormal. The bladder was distended, and 38 ounces of urine were drawn off by catheter. The temperature was normal. The symptoms became more marked the next day, with ptosis, inability to swallow, stertorous breathing, and complete unconsciousness. The cerebro-spinal fluid was under slightly raised pressure. The optic discs were pale and sharply defined. Nasal feeding was resorted to. By 10 p.m. the patient appeared to be *in extremis*. Rectal saline with 4 per cent. glucose was ordered.

Throughout the night the patient's condition remained so grave that recovery seemed to be out of the question. He began to improve the next day (April 5th); he became partially conscious, and was able to protrude the tongue, though not to speak. There was incontinence of both urine and faeces. The Parkinsonian facies was very obvious, and the arms were crossed on the chest and paralysed, the right completely; temperature 99.8°. Fibrillary twitching in the muscles of both legs and pharyngeal paresis developed later in the day, followed by an epileptiform seizure of ten minutes' duration.

The next day (April 6th), when ankle clonus was elicited on both sides, clonus was sustained for some seconds on the left side after removal of the stimulus. The temperature was 100.6°. Progress was uninterrupted and rapid, till by April 12th all paralyses had passed off. He had apparently made a complete recovery, and was discharged on May 20th.

The diagnosis of the case presented considerable difficulty at the outset. A consulting neurologist, who saw the

patient on April 4th, inclined to the view that tuberculous meningitis might be a probable explanation of the symptoms, though he had in mind the possibility of lethargic encephalitis. In the light of the subsequent history of the case he fully concurred with the ultimate diagnosis. The prognosis in the early stages of the disease was considered to be hopeless by a number of medical men who saw the patient.

As almost every feature which previous observers have regarded as of grave import was present in this case, the patient's complete recovery must be deemed remarkable. The sudden and severe onset indicated an unfavourable prognosis, as H. F. Smith found a mortality rate of 60 per cent. in cases with sudden onset. The severity of the general symptoms was also of unfavourable omen, as, from a study of the official records of the Ministry of Health, Parsons concluded that cases with marked general symptoms were more fatal than those in which the local symptoms were more prominent. Hall states that sudden death is not uncommon in cases, such as the foregoing, where bulbar symptoms were a prominent feature. Edwin Bramwell has emphasized the gravity of the prognosis in cases where previously deepening lethargy was accompanied by such symptoms as a rising temperature, profuse sweating, and incontinence; sweating, however, was not noticed in the case here recorded. Most observers agree that a severe attack is not necessarily followed by residua, and up to the present none have manifested themselves in this case. In view of the frequency with which cases are recorded as illustrative of the beneficial action of some particular remedial measure, it is significant to observe that a case of the gravest type may recover without any special treatment.

I am indebted to Dr. J. Wilkins, medical superintendent of the Eastern Hospital, for permission to publish this note, and to Dr. G. W. Ronaldson for directing my attention to the literature of lethargic encephalitis.

THE EXPERIMENTAL PRODUCTION OF STONE IN THE BLADDER.*

BY

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THE EXPERIMENT.

EARLY in 1926 young rats to the number of 120—66 females and 54 males—aged between 60 and 90 days, were fed on a diet consisting of tinned Scotch oatmeal 636 grams, linseed meal 240 grams, tinned cornflour 300 grams, sodium chloride 12 grams, calcium phosphate 12 grams, and distilled water 450 c.cm. The ingredients were mixed together and made into cakes by baking in a slow oven. The animals were given as much of this diet as they cared to eat. Distilled water was provided for drinking purposes. One half of them (33 females and 27 males) were given iodine in the drinking water, in the proportion of 0.1 mg. to the litre; the other half were given no iodine in the drinking water. The presence or absence of iodine in the water made no difference to the results in so far as stone in the bladder was concerned.

During the course of the experiment it was observed that the diet was very faulty: the young rats failed to grow normally, cannibalism was frequent, and the animals suffered from a variety of diseases, of which one was urolithiasis, another a severe anaemia resembling "pernicious anaemia" in the human subject. When the experiment had been in progress for one month 16 rats were killed by chloroform and subjected to *post-mortem* examination; similarly, 16 were killed and examined at fortnightly intervals up to the end of the eighth week. Stone in the bladder was not found in any of them. The experiment was then carried to the death of the remaining 72 animals, the last rat dying on the 157th day. Complete *post-mortem* examination was made in each case immediately after death. The present note deals with those animals found at *post-mortem* examination to have been suffering from stone in the bladder.

The chemical composition of the diet is given in the following table.

Table showing the Composition of the Diet used in the Experiment.

Constituent.	Percentage	
	Expressed on Original Sample.	Expressed on Moisture-free Sample.
Moisture	20.50	—
Mineral matter	5.73	7.20
Ether extractives	10.45	13.14
Crude protein	9.705	12.26
Crude fibre	1.06	1.32
Carbohydrates	52.555	66.08
Total	100.00	100.00
Albuminoids...	9.36	11.77
Insoluble mineral matter	0.37	0.465
Soluble mineral matter	5.36	6.735
Total	5.73	7.20
Soluble silica	0.0363	0.0455
Phosphoric acid (P_2O_5)	1.451	1.82
Iron oxide (Fe_2O_3)	0.046	0.058
Alumina (Al_2O_3)	0.366	0.462
Mangano-manganic oxide (Mn_3O_4)	0.0014	0.00176
Lime (CaO)	1.08	1.38
Magnesia (MgO)	1.05	1.32
Potash (K_2O)...	0.21	0.264
Sulphuric acid (SO_3)	0.19	0.23
Chlorine	0.396	0.49
Soda and undetermined (by difference) ...	0.533	0.664
Total	5.36	6.735

The table shows that the protein content of the diet was relatively low; the absence from it of protein of animal origin (milk) was a serious fault. The oatmeal contributed approximately 5.67 per cent. of the total protein, the linseed meal 5.21 per cent., and the cornflour 1.37 per cent. A further fault was deficiency of vitamin A. The sole source of this factor was the oatmeal and the linseed, the amount provided by the cornflour being negligible. All seeds are deficient in vitamin A to a greater or lesser extent; in comparison with others, oats is relatively poor in vitamin A, linseed relatively rich in it. The experimental diet, therefore, though not devoid of vitamin A, did not contain a sufficiency of this factor; the failure of the animals to grow normally and their susceptibility to various infections were due in part to this cause. The diet was not deficient in vitamin B, nor did it appear to be deficient in vitamin E, but it was, no doubt, deficient in vitamin D, although the animals presented no clinical signs of rickets. A further fault in the experimental diet was its richness in phosphates, and in lime, magnesia, and chloride; it contained approximately twice as much phosphorus (P_2O_5), three times as much calcium (CaO), and six times as much magnesium (MgO) as is present in the average well balanced human dietary. To these faults there was possibly added a toxic action of the diet itself on the urinary tract.

*An abstract, published by permission of the Director-General Indian Medical Service, of a paper which will appear in full, with additional illustrations, in an early issue of the *Indian Journal of Medical Research*.

RESULTS OF THE EXPERIMENT.

Of the 72 animals fed on this diet for longer than fifty-six days, 21 were found at *post-mortem* examination to have stone in the bladder—17 females and 4 males; a case incidence of 29 per cent. The incidence of the disease varied in the two sexes, being 40 per cent. in females and 13 per cent. in males. In two other cases in females an intense cystitis, but no stone, was present; in one of these there was some earthy incrustation around the neck of the bladder. Haemorrhage from the bladder was occasionally observed during life. In males protrusion of the penis was a constant symptom in those suffering from stone.

In 18 cases in which stone was found, a greater or lesser degree of cystitis was present; in these the bladder was

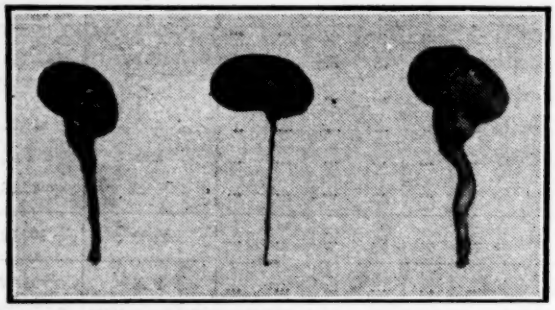

FIG. 1.—Kidneys, with ureters, from two cases of experimentally produced stone in the bladder in rats. The middle kidney (with ureter) is from a healthy control animal.

usually greatly distended and congested. In 3 cases there was no cystitis, showing that the deposition of the phosphatic calculi was not secondary to inflammation of the bladder. In 8 cases the left ureter was much dilated with associated pyonephrosis or hydronephrosis (the fluid was not examined for pyogenic organisms). The photograph (Fig. 1) shows the ureters in two affected animals and that of a control animal for comparison. Earthy deposits, but no formed stones, were present in the kidney in 4 cases. The stones in the bladder were either single or multiple, as many as five being found in one bladder (see Fig. 2); they were of a dirty white colour and their surfaces were rough and jagged. Occasionally formed stones were not found, or if

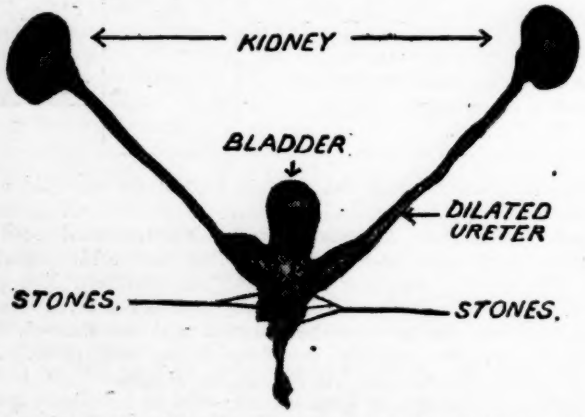

FIG. 2.—Experimental production of stone in the bladder in rats. The diet was the same as that described in the text, except that whole wheat flour was substituted for the oatmeal. Each ureter also held a small stone; there were five in the neck of the bladder.

found were so minute as to be more properly called "gravel." Earthy incrustations around the neck of the bladder were sometimes present. The stone, stones, or gravel varied in weight in individual cases from 17 mg. to 27 mg. in males, and from 8 to 42.6 mg. in females. The largest single stone weighed 35 mg.; a stone of proportionate size in man would have weighed about one pound. Chemical examination showed the calculi to consist mainly of earthy phosphates (calcium and magnesium) along with traces of calcium oxalate. Stone was found only in animals which died between the 84th and the 157th day of experiment; the diet did not appear to cause the disease until after fifty-six days of its use.

During the 157 days this experiment lasted 340 *post-mortem* examinations were made in rats which had been fed in various other ways. In none of these was stone in the bladder present. The stock diet in use in my laboratory does not give rise to calculus in rats; it consists of whole wheat chapatties, milk, butter, sprouted pulses, green vegetables, raw tubers, fresh meat in small quantities once a week, and water. Nor do synthetic diets deficient in vitamin B, but complete in other respects, cause stone in the bladder in rats; nor diets whose sole fault is deficiency of suitable protein or of suitable salts; nor synthetic diets whose sole source of vitamin A is 8 per cent. of pure Lucca oil. It seems, therefore, that the diet used in the present experiment was productive of calculus because of the peculiar combination of its faults—deficiency of vitamin A, absence of animal protein, richness in earthy phosphates, with possibly a toxic action of the ill-balanced diet itself on the urinary tract. This tentative interpretation of the results observed is to be considered in connexion with the recently reported observation of Fujimaki (1926) that stone in the bladder and kidney can be produced in rats by feeding them for long periods on synthetic diets deficient in vitamin A. The experimental production of stone in the bladder by means of an ill-balanced diet composed of foods in common use by man would appear to confirm and to extend the observation of Fujimaki, although it raises other considerations which require further investigation for their elucidation.

CONCLUSIONS.

1. Stone in the bladder has been produced in rats by means of an ill-balanced diet composed of foods commonly used by man. The stones were of the phosphatic variety.

2. The main faults of this diet were: (*a*) absence of protein of animal origin; (*b*) deficiency of vitamin A; and (*c*) excess of earthy phosphates. To these faults there may possibly have been added a toxic action of the diet itself on the urinary tract.

REFERENCE.

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ACTINOMYCOSIS IN THE BRAIN OF A CHILD.

BY

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ACTINOMYCOSIS is sufficiently rare to warrant a record of the following case in a child, aged 11, in which the brain was affected.

Actinomycosis, first reported by Bollinger in bovines in 1877,[1] and in man by Israel in 1878,[2] and by Porfick in 1879, is rather rare, and this appears to be the only instance of its occurrence in the brain of a child. Records of English cases appear to be limited to that described very fully by Delépine in 1889[3]; the patient was a decorator, 65 years of age.

Moersch in 1922[4] reported from the Mayo Clinic seven cases affecting the brain, all of which were secondary infections, the youngest being aged 20 and the oldest 41.

In the United States Sanford and Voelker collected (1925) 670 cases.[5] Among 574 in which the ages are known, there were 14 under 10, and 89 between 10 and 20. Of 588 cases where the location was known, there were only 9 in which the brain was affected; of these the youngest was 24 years of age, and the oldest 63.

A boy, born on January 15th, 1915, was admitted to the Booth Hall Infirmary for Children, Manchester, on September 27th, 1926. The history was that he had been quite well until March, 1926. He then complained of pain in the right side, and had twitching of the right arm and leg, of which he also lost the use. Later on he complained of headache and vomiting, and was admitted to the medical side of the Manchester Royal Infirmary, being transferred to the surgical side on July 26th, 1926, as a case of left cerebral tumour with increased intracranial tension. He then had left-sided headache, and the right arm showed flaccid paralysis. Vomiting, unaccompanied by nausea, was present. Sensation was unimpaired, but there was bilateral optic neuritis.

Operation.—On July 28th Mr. C. Roberts, F.R.C.S., performed left parietal decompression; considerable bulging of the brain was noticed when the dura was opened, but no localized tumour could be detected, and when the wound healed there was still bulging.

After-History.—On admission to Booth Hall Infirmary there was a large swelling over the left parietal area—4 inches by 2 inches; the skin in one part was broken down, and there was a purulent discharge. The right foot was in the position of talipes equino-varus. The wrists were hyperflexed, but could be extended voluntarily. The oculist reported slight blurring only of the disc edges; the vessels were not engorged. The Wassermann test was negative, and general examination, including *x*-ray examination of the thorax, did not afford any evidence indicative of tuberculosis. The diagnosis was cerebral tumour, not syphilitic, and probably not tuberculous. The child remained comfortable, and gained 2 lb. in weight until the second week in November, when he was reported as not so well; there was oozing of cerebro-spinal fluid and oedema of feet and scrotum. Albumin, half a gram to the litre, was present in the urine. Diarrhoea commenced a week later, and vomiting started the day following, death ensuing in a couple of days (November 24th, 1926).

Post-mortem Examination.—This was performed on the following day. Dr. Dawson reported as follows: "Beneath the fluctuant swelling on the left side of the head was an abscess the size of a Tangerine orange in the brain substance, containing greenish pus. Pus of the same kind was free at the base of the brain. The liver and spleen, the latter fixed by dense fibrous adhesions to the stomach, contained very extensive suppurating areas with a honeycomb appearance, with pus of the same greenish colour. The base of each lung was similarly affected, but to a small extent only. No other organs were found to be affected. Microscopically, sections of isolated nodules from the liver and spleen showed granulomatous lesions, including one or more typical actinomycotic colonies.

"Diagnosis: Actinomycosis, with extensive metastasis. The site of the original infection is not clear, but may have been gastric."

Thorough inquiry into the history shows that the patient had nothing to do with horses or grain, but regularly carried straw from banana crates. This is the only suggested means of infection.

Thanks are due to the librarians of the Manchester Medical Society and of the British Medical Association for their assistance in an extensive search of the literature, to Mr. Charles Roberts for the use of his notes, and to others for the assistance they have given.

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PERNICIOUS ANAEMIA IN ELDERLY PEOPLE.

BY

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PERNICIOUS ANAEMIA is regarded generally as a disease of middle and later life, and it does not seem to be as generally recognized that it may occur in persons of 70 years and over.

Cabot[1] makes the striking statement that pernicious anaemia is a disease of elderly people, its incidence being not far different from that of cancer; and Eason,[2] working on the figures of the Edinburgh hospitals, concludes that senility is a much more important etiological factor in the production of the disease than has been hitherto recognized. He finds, too, that the rate of incidence in the sexes varies with age. Under 50 the rate of incidence is higher in females than in males; over 50 the reverse is true. Ward[3] could find in the literature four other cases besides his own in which the disease had been recognized in patients over 70 years (70, 73, 76, and 80), and his own patient was 85 when she died.

The following notes refer to two women over 70 who both died of the disease. In one (Mrs. B.) the disease undoubtedly began after she had passed her 75th birthday, and in the other (Mrs. M.) probably at the age of 67 or thereabouts. The fact that the disease may have commenced at a much earlier age and undergone long remission has not been forgotten, but a careful inquiry into the history does not reveal any evidence to support this view, and both patients were under the supervision of the same medical attendant for many years.

CASE I.

Mrs. B., aged 75, was operated on for double hernia when over 70 years of age. She was very feeble for several years before the symptoms and signs of severe anaemia appeared, and was thought to be suffering from general arterio-sclerosis, but no focal lesions were observed and her blood pressure was below normal. She had a good appetite, slept well, and complained of little until three or four months before her death, when she showed the typical lemon tint of the skin, developed complete anorexia and obstinate constipation, and died from progressive weakness. A blood examination, which was repeated, showed:

Red cells	850,000 per c.mm.
Haemoglobin	30 per cent.
Colour index	1.7
Leucocytes	2,000 per c.mm.
Differential count:	
Polymorphs	30 per cent.
Small lymphocytes	69 ,,
Normoblasts	1 ,,

There was marked poikilocytosis and anisocytosis.

CASE II.

Mrs. M., aged 70, was always pale but had no severe illness before three years ago, when some grave form of anaemia was suspected. No blood examination was made, and the patient was able to go about her household duties fairly well until about six months before her death, when she complained of sensory changes in the fingers and toes, described as tingling, burning, and numbness. Later loss of temperature sense was noted, but at no time was there evidence of involvement of the pyramidal tract except for involuntary twitching of one big toe. She had a peculiar interrupted form of speech, cog-wheel in type, for which no explanation could be found by the laryngologist or neurologist who examined her. A blood examination showed the following:

Red cells	1,500,000 per c.mm.
Haemoglobin	28 per cent.
Colour index	1+
Leucocytes	5,000 per c.mm.
Differential count:	
Polymorphs	32 per cent.
Small lymphocytes	64 ,,

Poikilocytosis and anisocytosis were present.

Three weeks later the red cells fell to 900,000 per c.mm., whereas the haemoglobin was if anything higher, in the region of 30 per cent., giving a colour index of 1.6.

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ANEURYSM OF POSTERIOR TIBIAL ARTERY CAUSED BY FRACTURE OF THE TIBIA AND FIBULA.

BY

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CASES of aneurysm of the posterior tibial artery of traumatic origin are of sufficient rarity to justify the publication of the following notes.

A native cavalry soldier, aged 26, was admitted to hospital, having fallen and broken his left leg, both bones being fractured at about the junction of the middle and lower thirds. Radiological examination showed no points of special interest, the fracture being transverse with little displacement and separation. The limb was treated by fixation on a back splint, with footpiece and side splints. I was asked to see the man four months after the accident as there were no signs of union. I found him to be a healthy man with no venereal history; the limb was considerably wasted. Radiological examination showed the fragments to be in good position. There were no signs of callus or reaction at the ends of the bones. I recommended that the limb be re-splinted, and the patient given a liberal diet, a course of tonics, and potassium iodide. His Wassermann reaction was negative on two separate dates. Three weeks later (seven weeks after the accident) there was little or no callus formation and a very poor attempt at union. I now found a pulsating expansile swelling in the calf opposite the point of fracture; it was the size of a hen's egg and in the line of the posterior tibial vessels. A loud blowing systolic bruit could be heard over the tumour; this disappeared on compressing the main vessel above the mass. The pulse at the ankle could not be felt, but the circulation in the foot appeared to be normal. There was some disordered action of the heart, consisting of marked irregularity and a very accentuated first sound. I wondered if these physical signs were the so-called "tumultuous action of the heart" described by Makins in cases of aneurysm of peripheral vessels. A diagnosis of arterio-venous aneurysm was obvious, and, as the swelling at the end of a week appeared to be rapidly enlarging, I decided to operate.

Operation.

The operation consisted in applying a tourniquet and excising the sac, tying the vessels above and below it. Posteriorly the sac was covered by fascia and skin only, any muscle tissue having entirely disappeared; the fascia was stretched and thinned out over it. Anteriorly the sac was very adherent to periosteum, and had hollowed out the tibia, forming a smooth cup-shaped depression

through which ran the fracture. The sac, on being opened and the clot turned out, showed the openings of seven vessels into its wall. I had at first contemplated plating the fracture as a second stage of the operation, but, owing to the fact that the patient did not take the anaesthetic well, and that the dissection took longer and was more difficult than I had expected, I decided to abandon plating until a later date. The ends of the fragments were curetted. The cavity made by excising the sac having been obliterated by deep catgut sutures, the wound was closed, and the limb was then put back on the original type of splint. The wound healed by first intention, and the circulation in the limb appeared normal. Six weeks later there was good union. The patient was discharged from hospital, and is now doing his duty. The excitable heart condition improved and disappeared.

Fractures of the tibia and fibula in this position, due to indirect violence, are so common, and injuries to the vessels so rare, that at first I wondered if there might not have been some direct violence (kick) damaging the vessels. The violence was, however, of a twisting nature. The foot caught against an irregularity in the ground, and the man, half turning round, fell down. He was emphatic that there had been no kick or direct violence.

Aneurysms of the posterior tibial artery are rare. Crisp,[1] in his table of 500 aneurysms, reports only two cases of aneurysm of the posterior tibial. The India catalogue of the library of the Surgeon-General, U.S.A., gives a list of eighty cases of aneurysm of peripheral vessels, of which only one—a case of diffuse aneurysm of the anterior tibial artery—was due to fracture.[2]

Treatment by operation in this case was most successful. Digital or instrumental pressure was not attempted in view of the complicating fracture and the rapidly increasing size of the tumour. In this case there can be no doubt that the posterior tibial vessels received an injury at the time the fracture was incurred. It is a remarkable fact that the vessels escape as often as they do. The failure to unite was certainly caused and aggravated by the presence of the aneurysm; the surrounding tissues were very dense and fibrous, and showed considerable peripheral connective tissue hyperplasia, which interfered with the nutrition and bone-forming units at the ends of the fragments. There were no signs of general vascular disease. The man was young, healthy, and, as far as shown by the Wassermann test, free from syphilitic taint.

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

LOCAL ANAESTHESIA IN SUBMUCOUS RESECTION OF THE NASAL SEPTUM.

SUBMUCOUS resection of the septum nasi gives good results in suitable cases, but it is not an easy operation. A high authority has, indeed, stated that in any case in which it proves easy it was not needed, and the difficulties natural to it are greatly increased by the use of general anaesthesia, however skilfully administered.

After a long and mainly disappointing experience of many varieties of local anaesthesia I have found a method which permits of the most extensive resection without pain, haemorrhage, or the need for hurry. It is as follows.

One hour before the time fixed for operation the patient receives half a grain of morphine by hypodermic injection. When upon the table he is assured that no pain will be inflicted. The nasal mucosa is then very gently but very thoroughly gone over with a cotton mop repeatedly dipped in a solution of adrenaline. This is massaged into every part of the nasal cavities that can be reached, half a drachm of adrenaline being used. Five minutes at least are devoted to the application, after which anaesthesia is induced by the surface application of cocaine. Three grains of cocaine hydrochloride crystals are measured into a porcelain capsule, and a cotton-tip, wet with adrenaline solution, is loaded with the solid cocaine; the nasal cavities are then massaged with it until the whole of the cocaine has been applied. It is important to leave no area of the nasal mucosa untreated. The operation can then be undertaken.

The completeness of the anaesthesia is unbelievable until one has had experience of it, and the absence of haemorrhage eliminates the chief difficulty of the operation. During the past few months I have employed the method in thirty-eight cases, and find it incomparably superior to any means of inducing local anaesthesia by injection. The entire absence of toxic symptoms may be attributed to the thorough application of adrenaline, which is an indispensable preliminary. I owe my knowledge of the method to the kindness of Dr. Dan McKenzie, who demonstrated it to me last year at the Central London Throat and Ear Hospital.

Leigh Infirmary, Lancs. F. PEARCE STURM.

HENOCH'S PURPURA IN AN ADULT SIMULATING "ACUTE ABDOMEN."

THE report of a case of Henoch's purpura in an adult by Dr. Alex. G. MacGillivray, in the JOURNAL of February 12th (p. 279), prompts me to record the following case.

A single woman, aged 19, was admitted to Lincoln County Hospital on November 23rd, 1926, complaining of pain of two weeks' duration in the lower abdomen, vomiting, and diarrhoea. The diarrhoea ceased in a week, but intermittent vomiting and pain continued up to the day of admission. There was no history of epistaxis or headache, etc.

The patient looked extremely ill; the tongue was furred and the breath foul. The temperature was 102°, the pulse 80, and respirations 24. The chest was normal. The abdomen was not distended, but did not move well, and there was tenderness and rigidity in the lower half, more on the right side than the left. On rectal examination no mass could be felt, but there was tenderness. The urine contained a slight trace of albumin.

The low pulse rate was difficult to interpret, but in view of the signs of peritonitis it was decided to operate. The abdomen was opened by a median incision, and the pelvis was found to contain several ounces of blood-stained fluid. The ovaries, tubes, and uterus were normal, as were the caecum, appendix, and ileum. The greater part of the jejunum was found to be swollen and intensely hyperaemic, with patchy effusions of blood. No ulceration was discovered, and there were no signs of strangulation, intussusception, or volvulus. The serous coat of the jejunum and ileum were normal, and Peyer's patches were not enlarged. The blood-stained fluid was mopped out, and the abdomen closed, Henoch's purpura being diagnosed. On the next day the temperature fell to normal and the patient was much better. There was some black vomit on November 25th, but after that the patient took food well.

On December 4th a typical purpuric rash appeared on her arms and legs. This soon disappeared and the patient made an uneventful recovery.

This case illustrates the well known fact that abdominal symptoms may appear before the purpuric rash, that intestinal obstruction or appendicitis may be simulated, and that the effusion of blood may produce peritonitis and further complicate the diagnosis. The normal pulse rate was also a feature of Dr. MacGillivray's case.

I am indebted to Dr. Watkins, surgeon to Lincoln County Hospital, for permission to publish this case.

Edinburgh. JOHN A. HADLEY, M.B., B.S.

TREATMENT OF INFLUENZA.

DURING the great influenza epidemic in 1918 I found the following treatment useful in cases with pyrexia or epistaxis and pulmonary complications.

Amm. chloridi	ʒ jss
Liq. amm. acetatis	ʒ vj
Tr. euonymi	ʒ ij
Tr. nucis vomicae	ʒ jss
Ess. pepsinae	q.s. for ʒ iv

One teaspoonful in a wineglass of water every two hours until better, then every four hours until well.

This treatment is based upon the experience of 1,972 cases, most of them in the crowded districts of Boston. There was no available nursing and the hospitals were overcrowded. Most of our physicians were at the front, and of those at home many were ill themselves.

In the gastro-intestinal form with anorexia and emesis the addition of one ounce of milk of bismuth was effective. The ensuing complications of bronchiolitis or lobular pneumonia responded equally well. The addition of strophanthus in long cases marked by cardiac failure was necessary.

Boston, U.S.A. I. EUGENE REID, M.B., C.M.Ed.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.

Paroxysmal Tachycardia.

AT a meeting of the South Wales and Monmouthshire Branch at University College, Cardiff, on March 31st, the President, Dr. R. PRICHARD, in the chair, Dr. HERBERT T. EVANS read a paper on paroxysmal tachycardia.

Dr. Evans said that though paroxysmal tachycardia had been recognized so far back as 1867, it was only clearly defined about twenty years ago, mainly in consequence of the electro-cardiographic work of Lewis. In this condition the auricles and ventricles contracted in their usual sequence at a rate of 110 to 200 per minute, which contrasted with the auricular rate of over 300 per minute encountered in auricular flutter, the ventricular rate in this condition being 240 to 250. Dr. Evans described the normal cardiac cycle, and said that in paroxysmal tachycardia the stimulus did not start in the sino-auricular node, but in a new spot usually situated in the auricle or auriculo-ventricular node. The new rhythm thus initiated was characterized by its sudden onset and cessation; its regularity; and the absence of change of rate after exercise, alteration of posture, emotional manifestations, and the use of drugs such as atrophine and digitalis. The duration of the tachycardia was usually short; it was accompanied generally by palpitation, shortness of breath on exertion, and nervous excitability or anxiety. Precordial pains had been noted, and gastric symptoms were common. Prolongation of the paroxysms was liable to produce acute cardiac failure, but sudden death was rare; nevertheless, the prognosis should be guarded in the case of patients known to have other forms of heart disease, and when the attacks were frequent and severe. No constant heart lesion could be associated with paroxysmal tachycardia, which often started in an apparently sound heart; children and young adults had been reported to grow out of this condition. The treatment was symptomatic, and morphine and chloral should be safely given.

The paper was illustrated by several electro-cardiograms.

Lupus Vulgaris.

Dr. J. BEATTY showed twelve cases of lupus and described the treatment adopted in each. He said that out of eighty patients treated by him during the last four years, two had developed epithelioma and one tuberculous abscesses. In another case pyrogallic ointment had been effective, though the condition had lasted for seven years, and large areas of the thigh, arm, and face were affected. After application of the ointment for four years the disease was replaced by large, white, pitted, and supple scars. This treatment was not suitable for general use in an out-patient department because it was slow and caused much pain. Little benefit had followed the use of *x* rays, but salicylic and creosote plaster was valuable when patients could only attend at long intervals. The prolonged use of ultra-violet rays had been helpful, but the treatment found most serviceable had been the application of alkaline phenol, followed by a hypertonic dressing.

Syphilitic Ulceration of Trachea.

Dr. D. P. PATERSON showed a specimen of syphilitic ulceration of the trachea in a West African seaman, aged 29. Death had been due to the large amount of watery mucus in the lower part of the trachea and large bronchi. The illness was said to have lasted six weeks, the chief symptom being noisy breathing during sleep; there was no stridor when the patient was awake, and the voice was unaffected. The larynx was normal, except for injection of the whole of the subglottic area. There was no pyrexia and the Wassermann reaction was negative. At necropsy the posterior wall of the trachea was found to be ulcerated just below the glottis; the bronchi were filled with watery secretions; parts of the lungs were oedematous; the mediastinal glands were enlarged; gummata were present in the liver; and there was fibrous thickening of the testes.

Diagnosis and Treatment of Goitre.

Mr. Lambert Rogers read a paper on the diagnosis and treatment of various types of goitre. He said that valuable diagnostic aid was provided by determining the basal metabolic rate, and by the test devised by Emil Goetsch of Boston, which was based on the fact that in thyrotoxicosis the sympathetic nervous system was hypersensitive to adrenaline. He divided thyroid enlargement into the diffuse and nodular types. In the first were comprised the non-toxic physiological enlargement of the gland at puberty, the endemic parenchymatous non-toxic variety, and exophthalmic goitre. Nodular goitres might be solid or cystic, and single or multiple; iodine should never be given to patients with nodular goitre. Malignant disease scarcely ever commenced in a previously healthy thyroid gland. Mr. Lambert Rogers discussed the indications for the surgical treatment of goitre and said that in competent hands the mortality was now lower than that of abdominal surgery. Before an operation an *x*-ray photograph should be taken of the neck to define the position and condition of the tracheal shadow. Other essentials were an electro-cardiogram, a daily record of the systolic blood pressure, a report on the state of the larynx, a skiagram of the thorax to show the shape and size of the solid shadow, a report of the Goetsch test, estimation of the basal metabolic index, and a complete blood analysis.

Reports of Societies.

VENESECTION.

AT a general meeting of Fellows of the Royal Society of Medicine, on April 7th, with Sir STCLAIR THOMSON in the chair, a discussion on "blood-letting" was opened by Mr. WALTER G. SPENCER.

Mr. Spencer ascribed the disuse of venesection, especially in private practice, mainly to the existence of certain prejudices; he traced the historical origin of the practice and of the feeling against it. The theories concerning the efficacy of the loss of blood had a prehistoric origin; the relief afforded by haemorrhage from the nose or piles was frequently quoted, and such natural occurrences probably suggested the undertaking of venesection. Hippocrates looked upon the use of venesection as so well established as to need only casual references. Asclepiades and Themison recognized the secondary benefits afforded by bleeding. Celsus advocated moderation, and Galen, while stating the average amount of blood usually allowed to flow, boasted of extreme quantities which had been let out. The Arabians extracted blood from a spot as far away as possible from the supposed seat of the disease, advocating the theory of "revulsion" as against "diversion"—that is, the withdrawal of blood from as near the seat of disease as possible. These two theories gave rise to a violent controversy, the Paris school following the Arabian physicians, while the Royal College of Physicians in London held to "diversion." The custom of periodically bleeding healthy persons was a mediaeval one and, incidentally, favoured the rise of the Guild of Barbers. However, certain influential opinions began to be expressed against the traditional ideas on venesection, and John Hunter was one of the first to break with tradition. Marshall Hall, while still in Edinburgh, wrote on some of the dangers of repeated blood-letting, and ten years later, in 1844, Copland's *Medical Directory* omitted all mention of venesection. Hughes Bennett compared cases of pneumonia treated in hospitals in this country by blood-letting and by diet only, with results very much in favour of the latter method. The capital indication for venesection, proceeded Mr. Spencer, was impairment of the pulmonary circulation, and he quoted early experiments on animals with regard to asphyxiation and blood-letting. Sydenham had observed that venesection served instead of a tracheotomy in some cases. In asphyxiation experiments the sudden fall in pulmonary blood pressure produced by venesection caused reflex stimulation of the respiratory centres, leading to better oxygenation of the blood. The speaker next dealt with certain states of grave urgency threatening death

from impairment of the pulmonary circulation in which venesection saved life. Dealing first with pulmonary and cardiac affections he quoted from publications by Henry Sutton and Pye-Smith, and lectures by de Havilland Hall and Hale-White. The effect of venesection on the over-distended heart had in very recent times been observed directly on the *x*-ray screen by B. Gordon. Cases had been recorded in which air embolism occurring during the induction of an artificial pneumothorax had been prevented from causing death by immediate venesection. Children suffering from scarlatinal nephritis with threatening uraemic coma were greatly benefited by venesection. In young children with the so-called "suffocative catarrh" it was sometimes difficult to open a vein, and cutting across the radial artery to secure the rapid loss of about 100 c.cm. of blood was said to be beneficial. Mr. Spencer then gave details of cases of apoplectiform seizures, status epilepticus, and heat-stroke all treated with great benefit by venesection. He pointed out the distinction between what could be achieved at an organized hospital and the venesection which was capable of immediate application in the absence of other remedies. In cases of asphyxiation by non-irritant gases—carbon monoxide for example—venesection would serve to start natural respiration when artificial respiration, including the administration of oxygen, had failed. Venesection was also of great value in irritant gas poisoning, Schafer having recorded that free blood-letting was the only remedy producing an immediate beneficial effect in dogs poisoned by chlorine gas. Acute poisoning—for example, by alcohol, carbolic acid, mushrooms, etc.—had frequently been treated successfully by blood-letting. Certain chronic affections were also benefited. The headache from high blood pressure and the pain of an aneurysm could be relieved by bleeding, and polycythemia caused by over-production of red blood corpuscles was greatly improved by venesection. Chlorosis had also been treated by blood-letting, especially in Germany.

Dr. HERBERT FRENCH dealt with the use of venesection for certain chronic conditions. The first of these was rare: polycythaemia with splenomegaly. This condition was treated in various ways, but nothing benefited these patients as much as venesection, and no case failed to respond. The second chronic condition was much commoner, but difficult to define. It was closely related to "raised blood pressure," although a rise in blood pressure was not an essential part of the clinical features. Bleeding gave relief, not by lowering the blood pressure, for this might remain at the same level; but the procedure was definitely beneficial nevertheless as gauged by the patient's own feelings. The age of the patients in this group was about 45 to 55; they were usually busy, overworked, and of the intellectual type, with too little exercise, who had always been very energetic in youth. Such a patient complained of vague symptoms, such as giddiness, and that his brain was not working so well. On examination it was usually found that his heart was not working so well either. After bleeding, such patients felt much better, could resume their activities, and they frequently returned to be bled again and again. In women a similar state of affairs was associated with the menopause, and a patient of this type complained of a feeling of increased pressure in the head. Such women all emphatically benefited from venesection, and this should be done much more frequently. Dr. French then gave his views as to why bleeding helped such people. He admitted that there was no satisfactory scientific explanation. Physiologists taught that venesection was useless, since the fluid element of the blood was almost immediately replaced from the tissues, and the other constituents were more gradually replaced in the course of about a fortnight. The speaker thought that in these individuals he had been describing blood destruction was delayed, and bleeding led to the removal of a certain amount of stale blood, which was replaced by fresh blood, and the patient was to a certain extent rejuvenated. He believed that in the past blood-letting had not been sufficiently employed because of the mess it made. He demonstrated a method by use of a special cone-shaped needle and bottle, which enabled a pint of blood to be removed in about five minutes.

Dr. R. FORTESCUE FOX said that in his younger days he had been much impressed with the effect of venesection in certain acute conditions. The pulse almost always became slower and fuller, and the circulation became tranquillized. Later on he (the speaker) became attached to certain water health resorts, where he met frequent "candidates for illness," middle-aged persons on the verge of breakdown, with considerable disturbance of the circulation. He quoted one such case in a woman, aged 70, stout and plethoric, who had a cerebral haemorrhage and became comatose, but recovered after immediate venesection. Cases of apoplexy at spas appeared to be common, and Dr. Fox thought that ingestion of water in certain cases might lead to a dangerous increase in the amount of fluid in circulation. He dealt more fully with the use of venesection in hyperpiesia, mentioning the two well known types—the one well fed and florid, and the other pale and anxious. He thought that hypertensive disturbances were common at certain periods—the menopausal time in woman and a corresponding period in man—and he considered that the essential factor in the production of high blood pressure in these cases was, not structural disease of the arteries, but some disordered nervous mechanism. Dr. Fox then described in detail certain cases of high blood pressure where bleeding had been performed at the onset of certain "pressure waves" when definite rise in blood pressure occurred. The various classical symptoms of these hyperpieties were, in his opinion, better indications for bleeding than the actual height of pressure present. He added that death from cerebral haemorrhage was becoming increasingly more common, especially in brain-workers and public men, and he thought it could be prevented in many instances by timely venesection. In treatment of high blood pressure cases it was necessary to follow the venesection with a period of other depletive measures, such as starvation, rest, and purgation. In conclusion, Dr. Fox protested against the teaching that venesection did not affect blood pressure. This was founded on physiological experiments in the healthy, and there was much clinical evidence to show that results were altogether different in diseased persons.

Sir WILLIAM HALE-WHITE began by stating that if the discussion had taken place eighty to ninety years previously several hundred people would have been bled in the afternoon in London, since every person who looked after his health in those days was bled every spring and autumn. In 1840 a doctor was charged with malpraxis for failing to bleed a patient with pneumonia, but there had been a great change, especially since the great blood-letting controversy of 1850-60. Before that date venesection appeared to be carried out for no other reason than that it was fashionable. Dealing next with the modern indications for blood-letting, the speaker said that the cases above all others which benefited were those in which the right side of the heart was overfilled. The guide should be, "Is the patient livid?" It was found that after venesection in such cases digitalis acted better. In pneumonia bleeding was indicated only if the cases were livid. In apoplexy bleeding should only be performed if there was respiratory embarrassment, and the same remarks applied to status epilepticus and sunstroke. In uraemia not much permanent good resulted unless the patient was livid from convulsions. Bleeding relieved the pain of aneurysms and was beneficial in polycythaemia. Lastly, the speaker mentioned two practical points. The patient should always be bled sitting up, so that he could be placed flat if fainting occurred. Secondly, care must be exercised in bleeding the young or very old patients.

Sir JAMES DUNDAS-GRANT described certain cases where venesection had been very useful. A case of severe uraemic coma in a girl after scarlet fever was cured completely by a timely venesection. A boy who had been resuscitated after drowning was found with a purple face and great respiratory embarrassment. He recovered completely after venesection. Another case of severe puerperal eclampsia was also benefited.

Sir WILLIAM WILLCOX said he had early been interested in the subject of blood-letting, since he had been a disciple and pupil of an ardent believer in the procedure, Dr. David Lees. He considered that it was indicated in five classes of cases: (1) Those in which the right side of the heart was dilated. (2) Convulsions, especially status epilepticus, which it would almost always stop. In uraemia

it was of most use in temporarily acute conditions with convulsions, such as in eclampsia. (3) Heat-stroke. In 1917 he had seen many cases of this condition, and venesection alone did most good in cases with cyanosis and convulsions. (4) Polycythaemia, where venesection was a very important form of treatment. (5) Certain medico-legal cases, such as forms of violent asphyxia from drowning or hanging. In high blood pressure cases with definite "pressure waves" a timely venesection was most beneficial.

Dr. H. LETHEBY TIDY summed up the conditions in which venesection should not be employed as chronic anaemias and low blood pressure, especially in elderly people. The indications upon which most people appeared to be agreed were polycythaemia and certain cases of high blood pressure among the chronic group and acute conditions associated with lividity and right heart dilatation. In uraemia there appeared to be two groups: acute cases in which venesection did good, and chronic cases in which it should be not performed. It was also agreed that it was beneficial in sunstroke.

ORAL SIGNS OF GENERAL DISEASE IN CHILDREN.

THE Sections of Odontology and of Disease in Children of the Royal Society of Medicine combined on April 6th for a discussion on "Oral manifestations of general disease in children." The chair was taken by Mr. J. B. PARFITT, president of the Section of Odontology.

Mr. A. T. PITTS, dealing first with osteomyelitis of the maxilla in infants, asked what was the nature of this condition. Was it a true osteomyelitis or an antral infection? As the maxilla in infants was a thin shell of bone containing the developing teeth, the tooth crypts soon became infected, and such cases often came within the scope of dental surgery. Treatment should be cautious and limited. Such cases of tuberculosis of the jaw as he had seen had been in the mandible. Did the condition occur in the maxilla, and was it always secondary to tuberculosis elsewhere? Could it occur in a clean mouth, or was it grafted on an existing dental infection? With regard to localized suppuration of the jaws of non-dental origin, although the teeth might be free from caries and appear healthy, a dental cause could not be excluded without a radiograph in addition to clinical examination. Necrosis following scarlet fever, once common, now appeared to be rare. Did this imply that the cause was a lack of oral hygiene which predisposed to infection, and that its present rarity was due to greater attention to hygiene of the mouth as part of the treatment of all illness? Speaking of the teeth in congenital syphilis, he pointed out two features of Hutchinsonian teeth: (1) alteration in architecture so that the sides converged towards the cutting edge, whereas in normal incisors the sides diverged from the gum margin to the cutting edge; (2) an area of badly formed enamel on the cutting edge or an actual deficiency of enamel, leading to a notch. He had never seen Hutchinsonian incisors in deciduous dentition. He believed Hutchinsonian teeth absolutely specific, and his experience confirmed Hutchinson's statement that when perforation of palate occurred the teeth were not affected. He also dealt with some anomalies of eruption and development, and asked whether there was any evidence of the teeth being affected in cases of precocity. In one case which he had seen, in a child of 4 with marked precocity, the dentition was several years in advance of her age. Finally, Mr. Pitts touched on oral manifestations due to vitamin deficiency, as in scurvy and rickets, and asked whether there was any support for the view that follicular stomatitis in children might be due to lack of water-soluble B.

Dr. ROBERT HUTCHISON, opening the discussion from the medical side, said that affections of the jaw in general disease were more surgical than medical. General hypoplasia of the skeleton, however, such as occurred in some forms of infantilism, affected the jaws as well as the bones. It was tempting to speculate in this connexion as to the part played by endocrine disturbances. Over-action of the anterior lobe of the pituitary, for instance, caused an overgrowth of the lower jaw in acromegaly, and it was possible that pituitary deficiency might result in under-development of the jaw during the period of growth. In cases of dyspituitarism such an under-development did not appear to occur. There was even less reason to believe that a deficiency of vitamin B could interfere with the development of the jaw. Rickets possibly acted in this way, though he thought it did so to a less degree than might be supposed. The teeth seemed to be more affected than the jaw by general diseases. Their appearance in rickets was delayed. Possibly the teeth were a better index to the real age of the patient than ossification of the epiphyses. In a case of precocious puberty at the age of 3, though the skeletal development was that of a child of 12, he found the milk teeth still present. The influence of general disease on the calcification of the teeth was well seen in rickets, and the observations of Mrs. Mellanby pointed to a deficiency of vitamin A as the cause. The effect of inherited syphilis on teeth was also well recognized. Anything which impaired the general health also might interfere with the laying down of enamel, and a groove more or less broad, or a succession of grooves, with healthy enamel between, might mark attacks of grave illness at that level of enamel formation. Variations in the reaction of the saliva in consequence of affections of the general health might possibly affect the enamel, though little attention had been paid to this subject. Indeed, the whole question of the relation between departures from good general health and a predisposition to dental caries was very obscure. Apart from alterations in its reaction, an increased viscidity of the saliva, the result of a disproportionate "sympathetic" secretion, might be expected to favour caries by interfering with the washing away of food particles. Such an increased viscidity was apt to occur in nervous children. The cause of grinding of the teeth was obscure; it might be merely a bad habit, but it was also met with in many mentally defective children, and in those who suffered from dyspepsia and perhaps from worms. Staining of the teeth was a rare and curious phenomenon, met with when there was circulation of a pigment in the blood whilst the teeth were developing. "Pink" teeth were met with in cases of congenital haematoporphyrinuria, and "green" teeth in jaundice. The gums, being highly vascular structures, usually became affected in diseases of the "haemorrhagic" class, such as scurvy, the lymphatic leukaemias, and purpura. It was possible, even probable, that impairment of general health might, by lowering resistance, favour the occurrence of gingivitis and pyorrhoea, but on this point, as on the influence of the general health on the production of caries, there was no very definite information. Hypertrophy of the tongue was met with in cretinism, and to some extent in mongolism, and in the latter condition fissuring of the organ became pronounced as the child grew. Affections of the mucous membrane of the mouth were, in the speaker's view, for the most part purely local, and not indicative of any general disorder. This was certainly true of the common forms of stomatitis; in the ulcerative, and especially in the gangrenous form (noma), enfeeblement of the general health played a large part, though he thought it very doubtful whether vitamin deficiency was a factor. Speaking generally, Dr. Hutchison was of opinion that the oral manifestations of general disease in childhood were, except as affecting the teeth, neither numerous nor important, just as the alleged effects of oral disease on general health tended to be over-stated.

The CHAIRMAN said that he rather gathered from the remarks of Dr. Hutchison that the oral manifestations of general disease were neither marked nor of very great value for diagnostic purposes. The reason for this must be connected with the great resistance of the oral tissues to trauma and to bacterial invasions of all kinds. He wished to point out the service that an ordinary dental surgeon could render in the course of his work—he meant the dental surgeon who corresponded to the general practitioner in medicine. The dental surgeon did not see children very early, and he practically never saw them in an active stage of illness, but he might see the beginning of a growth or of some abnormality, hypertrophy or something of that kind, and this, of course, he would properly point out to the medical man. The speaker referred to

three conditions which the ordinary dental surgeon treated in children. The first was dental caries. Recent research seemed to prove beyond doubt that caries was due to the presence of certain organisms, but this was not a sufficient factor, otherwise every tooth would become carious. There was an unknown factor behind, possibly some endocrinal disturbance upsetting the ordinary immunity to bacterial infection. The second condition was periodontal disease. Here again there was a suspicion that something more lay behind the actual infection—something in the "soil" or "climate" as distinct from the "seed." The third condition was dental-facial irregularity—the particular department of the orthodontist. This condition might arise accidentally, or might be due to some fundamental disturbance of growth. Orthodontists told them that the more one looked for these innate disturbances of development the younger were the children in whom they were found. If the separation which normally occurred between the temporary teeth was retarded the child would have an irregular set of permanent teeth, but what the retarding condition was it was difficult to say; it must be something of a general nature. One of the greatest services a dental surgeon could render was to keep a careful watch on the development of the children who came to him from time to time, and to report anything abnormal to the parents or to the medical man.

Dr. H. C. CAMERON said that so far as it was possible to classify children into types—and the types were mainly determined in inherited peculiarities, assisted no doubt by faults in hygiene and diet—a distinction could be made between two common types of children, in one of which the teeth were found almost habitually faulty, and in the other the teeth, though with many exceptions, were usually well formed and well erupted and with good enamel. The type of child in whom caries was prone to occur was the child with a high content of lymph in the body, a round, plump child, often with very highly coloured cheeks, and a considerable tendency to overgrowth of the lymphatic structures. Such a child was specially likely to have inherited a tendency to catarrhal infections, and he thought the repeated catarrhs, acting on the erupting processes carried on in the normal organ, did from time to time result in that normal organ working badly, and caries was the result. It was very common in these children to find the molar teeth, not erupted vertically, but almost lying on their side, so that the grinding surfaces met at their edges and not surface to surface. The other type of child—the child who always seemed to have good teeth—was the child of intellectual inheritance, with metabolic instability, an ancestry of gout, migraine, asthma, and eczema, very often a pale, thin child, and much subject to vomiting and like troubles. This type of child seemed to have, as a rule, good teeth, with good enamel. A further point was with regard to the use of the jaws. Mothers were commonly instructed at the health centres to allow their children to bite hard food, but it always seemed to him that the child who developed well, who learned to walk early and speak early, learned also to bite and use the jaws early, whereas the child whose infancy had been punctuated by catarrhal complaints was likely to walk late, talk late, and also use the jaws late. In corroboration of this was the fact that children who had brain affections, having perhaps suffered cerebral injury at birth, and on the neuro-muscular side were very slow, nearly always gave an immense amount of trouble on account of their teeth.

Dr. DAVID NABARRO confined his remarks to teeth in congenital syphilis. He said that when people talked of Hutchinsonian teeth they usually had in mind the obvious appearance, and such instances were really quite common, but there were also other less marked types of Hutchinsonian teeth which were not at all uncommon but often escaped recognition. Often in children on whom, on account of suspicion arising from some other circumstance, a Wassermann test had been done and had proved positive, he had found on making a closer examination that the teeth were partially Hutchinsonian. In his experience also, when the Hutchinsonian teeth were found in the upper incisors, the lower incisors also had a very characteristic appearance, small, with a convex anterior surface, and spaced often like little tombstones sticking out of the jaw. The records of 208 cases of congenital syphilis in children over the age of 7, obtained at his hospital, showed that 32—about 15 per cent.—had typical Hutchinsonian teeth, but of the whole 208 only 93 had normal teeth, so that in more than half the cases there were teeth which made one suspect the presence of disease. He had had twelve cases of ulceration of the palate during the last twelve years, so that this was not a common condition, though it was characteristic when it occurred. In only one of these twelve cases did he find Hutchinsonian teeth, though in two others there was a "tombstone" appearance. The positive Wassermann reaction was very persistent in these cases of ulceration of the palate.

Mr. F. N. DOUBLEDAY mentioned a case in which an abscess on a temporary tooth had caused infection of the crypts of the permanent teeth beneath. This condition was not really osteomyelitis of the jaw in the sense in which one looked upon that condition in the adult, but he mentioned this occurrence of infection of the crypts in the hope that someone might have had more success than he in dealing with it. He also described a case of infantilism in a woman 18 years of age, who had all the appearance of a child of 7 or 8. She played with childish things, her stature was that of a child, and she had a childish dental condition. The speaker sent her to a medical colleague, who put her on dried thyroid extract, and she began to grow, and the teeth erupted perfectly well. In his mind one of the most serious manifestations of general disease in the mouth of a child was dental caries. This was often directly induced by bad advice given by medical practitioners. Mothers often quoted to him a medical practitioner as their authority for giving their children sweets. The practitioner had told them that this was an easy means of raising the carbohydrate part of the diet. He believed that the result was gastro-intestinal stagnation, and that such stagnation accounted for a large number of the cases seen in out-patient departments. It was very largely brought on by an overloading with sugar from youth up.

Dr. ALEXANDER LIVINGSTON remarked that there were two types of gum margin inflammation, one of them purely local, and the other, in his opinion, part of a general lowering of resistance, accompanied by constipation or diarrhoea or other systemic upset. Gum marginal redness was largely a local condition, but a certain group of children presented the more general state which he thought might be attributed to one or more of four causes: generally lowered resistance, calcium shortage, vitamin or sunshine deficiency, or Vincent's fusiform and spirochaete infection. Occasionally the condition went on to a gingivitis or stomatitis, and sometimes to noma. The teeth of children, the speaker added, were extraordinarily interesting and important. The teeth of a child of 6 might be said to give the child's past history, and the mucous membrane of its gums its present condition.

Mr. HAROLD CHAPMAN regarded irregular teeth as an ill development of the maxilla and mandible. There had been an increasing tendency in recent years to regard irregular teeth as one sign of some more deeply seated abnormality, but if there was any foundation for such a view it was particularly appropriate that it should be considered by the two Sections now meeting. What were the causes of irregular teeth, and were such causes also indicative of other physical defects? Were irregular teeth oral manifestations of other diseases in children? Irregular teeth occurred in children of all classes of society, but their incidence in families was peculiar. In some families certain children had irregular teeth and others perfect teeth from the point of view of regularity. In another family all the children might have irregular teeth. The most perfect regularity of teeth in all the members of the same family which he had ever seen was in a family of nomads, who lived under as primitive conditions as one could find in this country to-day.

Dr. ROBERT HUTCHISON, in his reply, took up the question of the effect of sugar on teeth. He was prepared to admit theoretically that sugar might be expected to be a factor in the production of caries, but sugar was an

extremely valuable food for the child, and it might be worth while to pay the price in a certain amount of dental caries. To say that sugar caused gastro-intestinal stagnation was, from a medical point of view, "bosh." Whatever else this unfortunate article of diet could do, it could not do that. One speaker had described a new variety of marginal gingivitis which apparently was due to all the pathological fads separately or collectively, including vitamin and sunshine deficiency—the *dernier cri*—calcium shortage, and Vincent's condition. He was extremely doubtful about plural causation—and such causation!

THE MEDICAL SERVICE IN WAR AND PEACE.

AT a meeting of the War Section of the Royal Society of Medicine, on April 11th, Major T. J. MITCHELL, R.A.M.C., read a paper on man-power and the medical service in relation to some of the principles of war.

Major Mitchell discussed the part played by the medical service in war with reference to the concentration of superior force, moral and material; economy of force; mobility, and co-operation. Its duties extended beyond the care of the sick and wounded, the preservation of the health of the troops, replenishment of medical stores and equipment, and the collection and evacuation of sick and wounded; they included also the decreasing of the number of deaths from wounds, reducing the number of permanently disabled men who would become a justifiable expense to the State, the shortening of the time spent in hospital, and promoting the speedy return to duty of as many men as possible. (The cost to date in payment of pensions and the administration of the Ministry of Pensions was over £665,000,000.) An efficient medical service resulted in a considerable saving to the State of both men and money. The medical service in an army, though wholly humanitarian, was yet of great military importance, since it played an active part by supplying reinforcements. Statistics showed that at one time or another during the great war the medical service was called upon to deal with the sick and wounded of a force with an average strength, including labour units, of nearly 3,500,000. Moreover, operations were conducted in every variety of country and climate, and in Eastern theatres of war in particular an important factor contributing to the success or otherwise of the campaign was the number and well-being of native followers. Broad questions affecting recruiting, billeting, training, rations, the provision of hospitals and other essential medical units opened up a field of research. Specialized types of transport and equipment must be considered to meet the varying needs of different theatres of war. Admissions for disease far outnumbered those for wounds in Eastern countries. Native followers, their needs and customs, afforded scope for a sociological study of far-reaching importance if campaigns in tropical countries were to be carried on without an extravagant expenditure of men and money. Practical application of the principles of medical organization in the field produced better moral among the troops; increased mobility of the army; the early return to duty of trained men who had been slightly wounded, thereby assisting in the concentration of superior force; monetary saving to the State; and increased confidence among relatives at home. To attain these ideals, however, there must be co-operation between the medical service and the general staff and other branches of the army. Certain obstacles always confronted the medical staff officer: the secrecy maintained by the general staff on matters affecting medical arrangements; its unwillingness to estimate the probable number of casualties and where they might be most numerous; and the locating of medical units. The ability of the medical service to help the general staff, their men, and the State depended upon the information given. For the supply of extra units and personnel, close co-operation was required with the adjutant-general's branch of the staff, and with "Q" branch on matters of transport. It was the duty of the medical service to make it clear that their requirements were not made haphazard but were calculated on definite factors, such as estimated battle and sick casualties, the rate of evacuation, and a small percentage for "crisis" expansion. Failure to appreciate this need for expansion, in the matter of transport, usually led to a breakdown of the medical arrangements, disorganization, and the evacuation overseas of slightly wounded trained soldiers, with consequent loss to the army and expense to the State. From the point of view of man-power the number of men returned to duty in the theatre of operation was all-important. The better the arrangements to collect cases without delay, and the more adequate the provision for their reception, treatment, and evacuation, the greater would be the mobility of the army and the economy of force. The medical statistics of the Western front had shown that the admissions to hospital numbered almost two million wounded and over three million for other causes; of these admissions, roughly 80 per cent. wounded and 93 per cent. sick returned to duty in some capacity. The total returned to duty was equivalent roughly to sixteen armies. These figures bore eloquent testimony to the value of the practice of surgery and medicine and the allied special branches, as well as to the undoubted benefits of measures to prevent disease in an army; here success was limited by knowledge and the application of methods. While other branches of the army usually included in their paper schemes definite medical proposals, in actual preparations for war they found it difficult to apply these proposals. Bitter experience in Mesopotamia proved the inadequacy of the regulation that the officer commanding a unit or force was responsible for the sanitary conditions of that unit or force. Diarrhoea, colitis, and dysentery were among the greatest causes of sickness in that campaign, despite the constant issue of orders on the preventive measures required. When attacking troops captured a Turkish position they usually encamped on its site, one of the foulest spots imaginable; consequently the admission ratio for these diseases grew greater than that of battle casualties. It was not the decision to encamp on that position that was questioned, but the fact that all knew the inevitable results, were content to let them ensue, and, it seemed, were still content to let the same thing happen again. It was too much to expect tired troops to make a camp sanitary, but insanitary conditions could be made good if a fresh sanitary battalion were hurried to the spot. When it was realized that in Eastern theatres of war, if not in all, disease was a greater enemy than the human foe and took a greater toll of casualties, both men and money would be saved by proper equipment to fight against it. It was the plain duty, therefore, of the medical service in times of peace to try to convince others by hard facts, to examine their teaching and training, and to be ready to ease the suffering and save men for the fighting forces.

CROWN GALL AND CANCER.

A LABORATORY meeting of the Section of Tropical Diseases and Parasitology of the Royal Society of Medicine was held at the London School of Hygiene and Tropical Medicine on April 6th, with the President of the Section, Professor R. T. LEIPER, in the chair.

During the evening Professor WILFRID ROBINSON read a paper on some features of crown gall in plants in reference to comparisons with cancer. From time to time, he said, comparisons had been made between tumour-like growths in plants and tumours in animals and man. Such comparisons on analysis proved to be more apparent than real, if only because of the profound differences in cellular construction and manner of growth. In recent years, however, Erwin Smith in America had expressed the opinion that the characteristic growths in plants known as crown gall were comparable to malignant tumours, particularly as he had observed what he considered to be metastases in this condition. Although he had isolated bacteria from these tumours, Smith had failed to locate them in the diseased tissues by direct microscopical observation. More recently, Blumenthal and other German workers has isolated from the margin of human tumours a bacterium apparently identical with that responsible for the plant condition (*Bacterium tumefaciens*), and at least one of his strains had proved capable of producing crown

gall on sunflowers. Moreover, Blumenthal claimed to have produced tumours in healthy animals by inoculation with the same organism. Using a strain of this organism isolated from chrysanthemums, Mr. Walkden and Professor Robinson had carried out experiments which suggested that Smith's comparisons could not be accepted as valid and which showed why Blumenthal's work could not be accepted as proving that a similar organism was responsible for malignant diseases in man and animals.

The secondary growths described by Smith did not occur naturally on plants, but resulted only from experimental inoculation. The natural growths were globular swellings with a rough surface bounded by superficial layers of dead cells, and the bacteria were present in abundance on the surface. The organism could only produce galls after wounding. It entered the intracellular spaces and, adjoining the lines of invading bacteria, cells and tissues, normally inactive, were stimulated to repeated division. Control shoots cut similarly did not thus grow. In these rough-surfaced galls the later development of the swelling was partly due to the active presence and multiplication of *Bacterium tumefaciens* on the rough external swelling of the gall. The so-called secondary tumours arose when the inoculations were made by needle-pricks near the growing points of actively growing shoots. A number of leaf-rudiments were affected by the needle-prick, and as the growth of the plant proceeded the injuries which developed galls became widely separated from one another. Many such galls had a rough surface, but some were smooth. They were not due to tumour strands, as Smith suggested, but to the presence of bacteria in the air spaces. The bacteria were either carried by the growth of the plant to some distance from the original point of entry or migrated actively in the intracellular spaces. Although regions infected by the migrating strands of bacteria superficially resembled invasive tumour strands, the cells were merely altered *in situ* and there was no migration of cells. This could be observed with particular ease in tobacco plants. Other features of crown gall, such as the apparent teratomas, and the apparent transformation of the structure of one organ into another as a secondary effect of bacterial activity, were equally invalid for comparison with malignant tumours in animals and man. Riker and Kustur had reached similar conclusions, but others had drawn the amazing conclusion that *Bacterium tumefaciens* or similar organisms occurred in human tumours, and that when isolated these organisms could produce not only galls on plants but tumours in animals. In no case, however, had these workers succeeded in isolating the organisms anew from the tumours of the diseased animals. That it should be possible to isolate organisms similar to *Bacterium tumefaciens* from the necrosing margin of tumours was not surprising in view of the large number of different bacteria there.

There thus, continued Professor Robinson, seemed little if any justification for Smith's comparisons or for Blumenthal's conclusions that some connexion existed between crown gall and animal tumours. There were, however, certain features which plant and animal diseases had in common. In both cases cells and tissues were stimulated to active atypical proliferation, and a real insight into the nature of these changes in crown gall might throw light on the changes taking place in the cells of animal tumours. Warburg held that this problem was essentially one in cellular physiology. He had studied the energy-liberating reactions in rat sarcomas and carcinomas, and in fowl sarcoma measured the fermentative changes in the tumour tissue. He found that this fermentative activity resulting in lactic acid production was a property of all non-necrosing tumour tissue, and that such tissue showed this property irrespective of the presence of oxygen. In the absence of oxygen all body cells showed fermentation, but only embryonic tissues showed fermentation at all comparable in magnitude with that of tumour tissue; this was masked in the healthy embryonic tissue by active respiration. Warburg concluded that in tumour tissues the oxygen respiration of growing cells was electively injured, while the fermentative activity still proceeded. Poisons and other injurious substances acted similarly and *in vitro* tumour cells occasionally arose. Usually, however, the effect of injuring respiration was to cause the death of the tissue. In plants lack of oxygen often resulted for a time in cell proliferation, and it might be of significance that *Bacterium tumefaciens* was strongly aerobic. Thus it was possible that in the intracellular spaces it modified the oxygen relations of the cells and caused proliferation. Whether the metabolism of the plant tissues in crown gall was similar to that in animal tumours had still to be seen, but it appeared possible that in their cellular physiology plant galls might have at least some points in common with animal tumours.

Dr. ARCHIBALD LEITCH thought that comparisons between plants and animals were rather illusive. He considered that the most that Blumenthal had ever done was to produce a granuloma, and a poor granuloma at that. It was even doubtful if his organism was the same as that of Smith. He agreed with Professor Robinson that there was no analogy between crown gall and animal tumours.

INFLUENCE OF RADIATION ON THE GROWTH OF TUMOURS.

AT a meeting of the Section of Electro-Therapeutics of the Royal Society of Medicine on April 8th, Dr. G. B. BATTEN presiding, three communications were made describing experimental work on the growth of tumours in tissues exposed to x rays and radium.

Professor SIDNEY RUSS spoke of some work which he and Miss G. M. Scott had done in the Cancer Research Laboratories of the Middlesex Hospital. He said that it was known from previous experiments that rats which had been exposed to repeated small doses of x rays and afterwards had been inoculated with Jensen's rat sarcoma did not grow the tumour as quickly as non-irradiated rats. One investigator, Murphy, had found that after purely local irradiation of the skin of mice, intracutaneous inoculations of the tumour rarely grew, but with subcutaneous inoculations there was very little difference between the growth in the treated mice and in the controls. As these observations had some bearing on the therapeutic use of x rays and radium, Dr. Russ and his colleague made further experiments from which again it seemed clearly indicated that the implanted sarcoma of the rat did not grow at the normal rate in the area which had been given a suitable dose of radiation. These experiments, which he described in detail with the aid of graphs, had been continued. Young rats had been inoculated on the flank with small pieces of Jensen's rat sarcoma, and three or four days later the graft was covered with a lead disc and the surrounding tissue exposed to a square radium capsule for varying periods in different cases. Half-way through each exposure the capsule was turned through an angle of 45 degrees so that the irradiated area might be more or less circular. In some cases control tumours were grown in the same rats, in others in different rats, but in all cases the control tumours were the larger. The series of observations on more than 100 rats suggested that radiation of the skin distinctly hindered the growth of the tumour. Finally this was tested in a more exact fashion. Each rat was covered with lead thick enough to stop the x rays used in this experiment, except over two areas. The rats were then exposed to moderate doses of the rays while under an anaesthetic. In some cases they were inoculated with Jensen's rat sarcoma before the x-ray exposure, but in most cases this was done three or four days afterwards, and the inoculation was made as nearly as possible in the middle of the screened area directly between the two exposed sectors. Jensen's rat sarcoma was found to grow much more readily in the normal areas, and in many cases where the irradiated area was eventually invaded by the tumour the growth was much flatter than in the normal regions. The tumour in its growth avoided the irradiated areas. All the rats in these experiments were inoculated in the flank. Normally Jensen's rat sarcoma in this position grew more or less spherically, with perhaps a tendency to track into the axilla and towards the chest, but one x-rayed sector was between the nodule and the axilla and the other directly below it, and the tumour grew more

readily towards the chest and avoided the *x*-rayed area near the axilla. The general result of the experiments was to show that the tumour grew more readily in normal tissues than in irradiated ones, irrespective of position.

In a further communication Professor Russ and Miss Scott described some work on the action of "radon seeds" on tumour and liver cells of the rat. The term "radon seeds" denotes a small glass tube, 3 to 4 mm. long, filled with radium emanation. The glass walls are very thin, so that not only do all the gamma rays get through, but a large proportion of the beta rays also. Jensen's rat sarcoma and the normal rat liver were used, and the seeds inserted for varying periods vertically and into the surface of the liver, leaving the top point just visible. These experiments were again described and illustrated in detail, and the general conclusions of the investigators were that limited regions of destruction were caused by inserting "radon seeds" into tumours and livers of rats, that the extent of the damage depended much more on the amount of energy absorbed than on the actual intensity of the radiation, and that the cells around the blood vessels appeared to be protected to some extent from the damaging effects of the radiation.

Dr. J. C. MOTTRAM, director of the Cancer Research Department, Radium Institute, London, also brought forward a contribution describing somewhat similar experiments, and bearing out the contention that tumour cells did not grow as well in irradiated tissues as in non-irradiated. He said that since radium and *x* rays were first used for medical treatment about twenty years ago a large number of facts had been accumulated, but so far no satisfactory theory had been propounded. He thought now that he had a theory which would string together a great number of these facts and possibly assist the clinician. The theory was that the observed effects of the radiation on living tissues were to be explained by adding together the results of direct action on the cells and of interference with the blood supply. Radiation, he said, had a profound effect on the blood vessels. This could be demonstrated by a simple experiment on the ear of a rat or a rabbit. If one ear of the animal was given a two hours' exposure to beta radiation no effect would be observed during the first two days following the radiation, but on the third day the ear which had been exposed would be at once pinker and bluer than the other ear, and after pressure the blood would return more quickly. After five days the only change would be a remaining blueness, and after six or seven days there would again be no difference between the ears. Fast-growing tumours were much more sensitive to radiation than slow-growing. The question was whether this difference was due to any greater sensitiveness of the cells of the tumour or to some other reason. He proceeded to describe experiments in which small pieces of tumour had been taken out and irradiated between mica and then put into mice. The result of the radiation was to cause the tumours to grow very much more slowly, but the tumours so treated were much less sensitive to a second dose of radiation. The changes seemed to be explicable, not by increased sensitivity of the cells to radiation, but by some other factor, probably the blood supply. There was no evidence that tumour cells were necessarily more sensitive to radiation than normal cells, and indeed the evidence of one observer, not perhaps convincing, was that actually the tumour cells were more resistant. The other factor was the vascular supply, which, if it were interfered with by radiation, might be expected to operate more severely in tumour tissues than in normal tissues. Such interference also was likely to influence more profoundly the fast-growing than the slow-growing tumours. To measure the vascular supply of a tumour was not easy. In slow-growing sarcomas one found quite a large number of well formed vessels running through the tumour. This factor might be held to explain the difference in the effect of radiation on tumours of various kinds, non-malignant and malignant, and situated in different regions, vascular and relatively avascular. A great number of clinical and experimental findings might be correlated with this idea that it was not only or chiefly the sensitivity of the cells which explained the action of the radiation, but the interference with the blood supply to the growth.

ULTRA-VIOLET RAY THERAPY.

AT a meeting of the Brighton and Sussex Medico-Chirurgical Society on April 7th, with the President, Dr. E. RIVAZ HUNT, in the chair, Dr. J. STANLEY ELLIS, in a paper on ultra-violet therapy, gave a brief history of the development of treatment by natural and artificial sunlight, and discussed the advantages and disadvantages of both methods. He concluded that artificial sunlight therapy bore the same relation to natural sunshine that synthetic drugs had to the crude drugs. The various wave-lengths of the electro-magnetic spectrum were shown, and the characteristics of the ultra-violet range were considered in detail. The definite photo-electric, photo-chemical, and fluorescent effects of the rays on the tissues were the basis of the profound physiological changes now demonstrable. After citing the effects of the rays on cholesterol, on the nerve endings, and on the production of pigment, all of which were concerned in the beneficial action of light therapy, the various conditions which responded to treatment were shown to fall naturally into four or five groups where the above physiological changes and others were most marked. Dr. Ellis added that certain drugs and endocrine extracts were activated by the rays in the human body, and emphasized the need of collaboration between the physician and actino-therapist. He feared that this form of treatment was in danger of discredit owing to the too ardent claims of enthusiasts; it was not a cure-all, but in the great majority of cases it was essentially an auxiliary procedure.

Diarrhoea in Tabes.

Dr. RODERIC CLAPHAM showed a woman, aged 37, who two months previously had come to hospital complaining of chronic diarrhoea of three years' duration which had become much worse in the previous six weeks. There were about nine motions during the day; they were quite painless, but she was losing weight rapidly. Examination of the abdomen and rectum revealed nothing except slight weakness of the sphincters. Examination of the nervous system, however, showed that this was a case of tabes with Argyll Robertson pupils, loss of ankle- and knee-jerks, and commencing perforating ulcers of both feet. The gait was normal, Romberg's sign was absent, and there was no inco-ordination. There was some analgesia and paraesthesia of the feet, the outer side of the legs, and the inner side of the arms. The Wassermann reactions of the blood and cerebro-spinal fluid were positive; the spinal fluid cells numbered 200 per cubic millimetre, globulin was in excess, and the colloidal gold reaction was 4332210000. Under antisyphilitic treatment the diarrhoea had improved, and the patient now had only two motions a day.

JAMES MACKENZIE INSTITUTE.

Delayed Resolution.

ON March 1st Dr. MAIR read a paper on delayed resolution in pneumonia. He distinguished an alveolar and an interstitial type of lesion, the former being characteristic of unresolved and recurrent pneumonia, while the latter was represented by pulmonary fibrosis. The symptomatology of unresolved pneumonia in the adult was reviewed, the lecturer specially emphasizing the loss of weight, even amounting to emaciation, which might result from this disease process. Illustrative cases from the Institute records were quoted. In one of these the signs of unresolved pneumonia were still evident, both clinically and radiologically, five months after the onset of illness. The symptoms in children were somewhat different from those found in the adult, the cardinal symptom being paroxysmal cough, often associated with cyanotic attacks. Failure of nutrition and some degree of exhaustion were almost constantly present. Cases of unresolved pneumonia and of recurrent pneumonia in children were reported, and the lecturer stated that danger to life appeared to arise, not primarily from the pneumonia, but from the repeated strain on the heart. One child died of exhaustion in its fifth attack. The difficulty of recognizing cases of interstitial fibrous pneumonia was emphasized. Symptoms might be almost lacking in this disease, beyond slight cough and some loss of efficiency, unless the condition was of such long standing that cardiac displacement had resulted.

Reviews.

LISTER AS SEEN BY A STUDENT.

DR. JOHN RUDD LEESON entered as a student at St. Thomas's Hospital, London, in 1871. After two years in its medical school he, on the advice of Dr. Murchison, migrated to Edinburgh. In *Lister as I Knew Him*[1] he now records the impressions made on him by his service in Lister's wards of the Royal Infirmary. No greater contrast could well be imagined than that offered by the conditions under which Dr. Leeson worked in the two institutions. St. Thomas's Hospital had just been erected, almost regardless of expense, in an open situation, with every improvement that commended itself to the late Sir John Simon, then the leading authority on all questions of hygiene, including hospital construction. The nursing was carried out by Florence Nightingale's own nurses. Everything seemed to be in favour of the patients' quick recovery from injuries and operations. Yet it was found that the new surgical pavilions at Lambeth were little if any more healthy than the ancient wards of the old building in the Borough of Southwark. On the other hand, Lister's wards in the Edinburgh Royal Infirmary were ill ventilated, ill lighted, crowded, and not over-clean. The building had not been designed for a hospital but for a school. It was old, situated in a low and crowded poor district, and, in short, seemed to be as ill suited to its purpose as St. Thomas's was well suited. The nursing staff had little training, and its members were ill educated and uncultured, unlike the trained and refined ladies of Miss Nightingale's school. In fact, a good deal of the nursing was done by the surgeons' dressers and clerks, of whom there were fifteen besides a house-surgeon. Yet the diseases which at St. Thomas's rendered the surgeons' efforts vain were banished from Lister's wards. The contrast was naturally staggering to the English student, who soon became one of the devoted band of dressers, and afterwards clerk. Lister's care of detail extended beyond the operating theatre, and he himself attended to much that would now be left to a nurse. This was one of the great secrets of his success, and the neglect of this, as well as misunderstanding of principles, was the secret of the failure of many of his contemporary surgeons in Scotland as well as England to obtain good results from the antiseptic method. Dr. Leeson tells us that although at almost every visit Lister was accompanied by foreign surgeons, eager to note every detail, his senior colleagues on the staff of the Infirmary took no interest and never entered his wards. London surgeons have no cause to look back with pride on the reception accorded to Lister and his methods by their predecessors, but Glasgow and Edinburgh are in no position to throw stones. It is clear from Dr. Leeson's pages that Lister, with all his kindness of heart, was a shy man, and that he never succeeded, even if he wished to do so, in breaking through the veil of constraint which separated him from his pupils, who nevertheless revered him, although their reverence was not untinged with awe.

This interesting book is well illustrated, some of the plates being taken from the late Professor John Chiene's book *Looking Backwards*.

PYORRHOEA ALVEOLARIS.

IN his work on *Pyorrhoea Alveolaris*[2] Mr. STEADMAN retains the old and oft-abused nomenclature because "it is exceedingly difficult to find a name which is really suitable, and the old term 'pyorrhoea alveolaris'—bad as it is—appears upon the whole to be as good as any other." Most medical practitioners will agree that even a bad name is better than another change, and will be grateful to Mr. Steadman for acknowledging that he, at any rate, can invent no better term. The author, who lectures on bacteriology at the Royal Dental Hospital, London, would divide pyorrhoea into (1) the germ-carbohydrate-stagnation type; (2) the atrophic type; (3) the acute infective type. While we acknowledge the simplicity of such a classification we cannot agree that he makes out a good case. The third type, by common consent, stands apart as a fuso-apicillary infection, but the first two "types" so commonly coexist, or in course of time develop one into the other, that no clinical distinction of type can be made.

In the etiology of pyorrhoea the author finds a place for "traumatic occlusion," but we should have preferred an example in which the affected teeth were regularly placed. Again, peri-apical infection through the blood stream does not seem to have been proved in the case quoted by the author: extremes meet, and we should have been at the other extreme (local peri-odontal infection) in explaining the clinical course of the case quoted. The importance to the dentist of substantiating the existence of traumatic occlusion and of peri-apical infection through the blood stream must be our excuse for direct criticism of these points.

The major part of the book is devoted to a discussion of the sequelae of pyorrhoea, and here the author seems to have forgotten he started out to discuss pyorrhoea and (greatly, we think, to the reader's advantage) has included all sources of dental sepsis. He has a wide clinical experience, and keeps careful notes, with the result that diseases as divergent as alcoholism and cancer have their appropriate clinical illustration. Syphilis is relegated to a minor place in the causation of chronic glossitis, and in general we may say that the author has a very just appreciation of the part played by dental sepsis in the production of disease, and presents his case in a restrained, and therefore the more convincing, manner. The pages on insanity might perhaps be curtailed.

In the chapters on treatment the author begins with the preventive treatment of the expectant mother, and carries the argument runs through infant-feeding, adenoids and mouth breathing, regulation of teeth, to the actual treatment of the condition when present. In adults we gather that the author is inclined to radical treatment.

Dr. Murray Levick adds a note on the value of ultra-violet radiation in dental sepsis, especially in raising the immunity of the body to bacterial invasion.

We wonder what "negatory" (p. 153) means, and we wonder how removal of teeth accounts for the incidence of pyorrhoea in childhood (p. 14).

The book will stimulate thought and interest in the problems of dental sepsis, both among medical and dental practitioners.

THE EVOLUTION OF MAN.

WE welcome a second edition of Professor ELLIOT SMITH'S essays on *The Evolution of Man*[3]; the first edition was published less than three years ago, and the volume had to be reprinted within six months.

In the new edition certain parts which were regarded by the author as not relevant to the general purpose have been omitted, but additions, both considerable and highly important, have been made. In the course of a most interesting discussion of the question of right- and left-handedness, it is indicated how the asymmetry of the human cerebral hemispheres "confers upon one hand, usually the right, a greater aptitude for the attainment of skill than the other." The author also marshals in orderly sequence the factors which led up to the adoption of the erect posture, and shows that it was not the cause of man's intellectual pre-eminence, as has so often been assumed. The erect attitude, as Professor Elliot Smith so definitely establishes, was itself made possible by cerebral development.

Perhaps the most valuable and fascinating addition is a very full consideration of the acquisition of skill and its significance and influence upon the evolution of man. Evidence is presented to prove definitely how the ability to perform skilled movements emerged, and how, having been established, it exerted profound influences upon the further development of the neopallium.

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[1] *Lister as I Knew Him.* By John Rudd Leeson, M.D., C.M.Edin., M.R.C.S., F.L.S. London: Baillière, Tindall and Cox. 1927. (Demy 8vo, pp. viii + 242; 7 plates. 8s. 6d. net.)

[2] *Pyorrhoea Alveolaris:* Its Ætiology, Pathology, Symptoms, Sequelae, and Treatment. By F. St. J. Steadman, D.P.H., L.R.C.P.Lond., M.R.C.S., L.D.S.Eng. London: Henry Kimpton. 1927. (Roy. 8vo, pp. xv + 263; 42 figures, 36 plates. 25s. net.)

[3] *The Evolution of Man:* Essays by G. Elliot Smith, M.A., M.D., Litt.D., D.Sc., F.R.C.P., F.R.S. Second edition. London: Milford, Oxford University Press. 1927. (Demy 8vo, pp. xii + 195; 47 figures. 12s. 6d. net.)

References to recent advances in knowledge and anthropological discoveries have been incorporated, and a very complete account of the Taungs ape is presented. The number of illustrations has been tripled in this second edition; they are all exceedingly clear and of high quality, and enhance appreciably the value of the book. The general descriptions and discussions are so simple, and technical terms have been avoided wherever possible with such remarkable skill, that the essays may be followed readily by the interested layman, as well as by the biologist and the anthropologist. The first edition has already proved itself to be a popular and valuable textbook, both in this country and abroad, and the new edition is likely to have an even wider circulation, and can be recommended most warmly to all interested in man's pedigree.

ALLERGIC DISEASES, INCLUDING ASTHMA.

DR. W. W. DUKE's book, the first edition of which was reviewed last year (1926, i, 290), on *Allergy: Asthma, Hay Fever, Urticaria, and Allied Manifestations*,[4] has already passed into a second. In the brief preface he not only expresses his "sincere thanks to the editors and physicians who have so kindly reviewed this little book," but obligingly points out some of the additions necessitated since it first appeared. Among them are almost a hundred recent references added to the existing thirty odd pages of the bibliography. Considerable importance is attached to the observation that most normal persons can be passively sensitized locally by an intracutaneous injection of the serum of a hypersensitive individual, and that this sensitiveness is specific for the substance to which the donor is sensitive—for example, if the recipient takes an article of food which affects the donor, the area of skin sensitized, and that part only, responds. He also describes very briefly his modification of E. W. Phillips's intracutaneous treatment with pollens for hay fever, and states that it was always and rapidly successful.

Dr. Duke has done much work on the reactions caused specifically by physical agents, such as light, heat, cold, mechanical irritants, and indirectly by the effect of mental or physical effort. The illustrations of urticaria thus produced are very striking. Reference to the work on these lines by Sir Thomas Lewis and his collaborators during the last two years should find a place in the next edition of Dr. Duke's useful book.

GUY'S HOSPITAL REPORTS.

THE first quarterly instalment of the seventy-seventh volume of the *Guy's Hospital Reports*,[5] edited by Dr. ARTHUR F. HURST, now with the help of Mr. W. H. OGILVIE as assistant editor, contains eleven articles. One, entitled "Cases from Clinical," deals with eight cases of interest; five of them, being by the "clinicals" or student contributors, serve a valuable educational purpose not only to the readers but to the writers. The longest article, occupying nearly a third of this instalment, is that on extrauterine gestation at term by Mr. S. N. Evans, who from an analysis of 33 cases published in the five years 1920-24 concludes that the etiological factor in 67 per cent. of the cases is infection due to a previous pregnancy or abortion, and that in the remaining 33 per cent. there is only the rather unsatisfactory postulation of developmental defects and anomalies. Mr. A. W. Ormond reports cases of disc-like degeneration of the macula, occurring at about the age of 70, and due to senile failure of the capillary circulation in the retina; the article is illustrated by six coloured representations of the change. A form of encephalitis lethargica characterized by unequal pupils and loss of accommodation without any severe constitutional disturbance and without any other nervous symptoms is described by Mr. O. Gayer Morgan and Dr. C. P. Symonds. Mr. W. H. Ogilvie reports two cases of squamous-celled carcinoma occurring simultaneously in different parts of the body, and appends a list of papers dealing with two independent malignant growths in the same patient. Mr. E. H. Richards has investigated the microscopic conditions of the tonsils and the posture in forty-two children; he finds that hyperplasia of the tonsils is associated with a generalized hypotonic condition, whereas a purely inflammatory change is a comparatively local affection; his results confirm those of Misses L. Wills and J. Warwick. Dr. Arthur Hurst's activity and influence are extremely obvious; he contributes two papers on remedial exercises in asthma and on so-called gastric hypertonus and gastroptosis, and atonic dilatation of the stomach. Dr. F. A. Knott's article on the part played in pernicious anaemia by achlorhydria and intestinal infection deals with thirty-seven of the editor's cases, and Dr. J. A. Ryle's record of an instance of oesophageal spasm with severe anaemia (Plummer-Vinson syndrome) is clearly inspired by his senior's example.

VERTIGO.

DRS. J. LÉVY-VALENSI and E. HALPHEN have written a small volume with the title *Les Vertiges*,[6] which summarizes in convenient form the main facts concerning this interesting and difficult subject. The book is one of a series dealing with neurological and psychological subjects published under the direction of Professor Henri Claude and Dr. Lévy-Valensi. Vertigo is defined as an error of sensation under the influence of which the sufferer feels as if he himself or surrounding objects were animated by a gyratory or oscillating movement. All true vertigo they regard as directly or indirectly vestibular in origin, whether the cause be an organic change in the vestibular mechanism itself or a systemic toxin indirectly affecting this mechanism.

After a short description of the anatomy and physiology of the vestibular apparatus and its nervous connexions, a considerable part of the book is devoted to an account of the standard methods for the examination of labyrinthine function. The various clinical conditions in which vertigo is a prominent symptom are then discussed seriatim and their differential diagnosis is considered. The accounts of primarily labyrinthine, nervous, and general conditions associated with vertigo are brief and clear, and the volume is an excellent guide to the subject.

NOTES ON BOOKS.

THE demands made upon the nursing profession have undergone a profound change; the cause is probably twofold. In the first place, during the war, in the times of stress, sisters and nurses had to perform duties and undertake responsibilities which they had hitherto never been called on to discharge. Since the war the advent of women into the medical profession has broken down many old prejudices and stimulated a keener interest and sense of rivalry among the nurses themselves. For this reason we can recommend Mr. RUSSELL HOWARD's book on *Surgical Nursing*,[7] which appears in its fifth edition and is brought up to date. The foundation of the book is a series of lectures on surgical nursing given to the probationers of the London Hospital. It gives a brief and concise account of the principles upon which modern surgical treatment is founded, especially from the nurse's point of view, and we may add that many medical students and junior qualified men would find its contents extremely useful to them in the wards. The active strides being made by surgery, with its tendency towards greater specialization, demand an ever-increasing knowledge on the part of the nurse, and it is essential that the nurse should understand the principles upon which the surgeon is working, so as to be the better able to render him efficient aid. Apart from carrying out instructions, the nurse must be prepared in cases of emergency to act and apply such treatment as may be possible until the arrival of the surgeon. Moreover, it is becoming more customary for nurses to carry out the preparation of the patient without special orders, and also to modify diet as circumstances demand.

[4] *Allergy: Asthma, Hay Fever, Urticaria, and Allied Manifestations of Reaction.* By William W. Duke, Ph.B., M.D. Second edition. London: H. Kimpton. 1927. (Med. 8vo, pp. 344; 75 figures. 25s. net.)

[5] *Guy's Hospital Reports*, Vol. 77 (Vol. 7, Fourth Series), No. 1, January, 1927. Edited by Arthur F. Hurst, M.D., and W. H. Ogilvie, M.Ch. London: The *Lancet*. (Med. 8vo, pp. 1-126; 2 coloured plates, 32 figures. Annual subscription £2 2s. for volume of 4 parts; single numbers 12s. 6d. each.)

[6] *Les Vertiges.* Par J. Lévy-Valensi et E. Halphen. Bibliothèque de Neuro-Psychiatrie. Paris: A. Maloine. 1926. (Imp. 16mo, pp. ii + 118; 41 figures.)

[7] *Surgical Nursing.* By Russell Howard, C.B.E., M.S., F.R.C.S. Fifth edition. London: E. Arnold. 1925. (Cr. 8vo, pp. xx + 320; 27 figures, 12 plates. 7s. 6d. net.)

The thirteenth edition of *Madeira, Canary Islands, and Azores*[8] has been revised and brought up to date, and the author, Mr. A. SAMLER BROWN, is to be congratulated on improving still more a very valuable and interesting guide-book to these islands, which are rightly increasing their popularity as health and holiday resorts. The climate, history, geography, social conditions, means of transport, and such matters are dealt with comprehensively, and the book is illustrated with photographs, maps, and diagrams. Special attention has been given to the requirements of invalids of different kinds, and medical practitioners who wish for information in this respect will find the book helpful. It may be suggested that the subject of pronunciation deserves a little more attention, two short paragraphs on an otherwise blank page being intriguing, but inadequate for those who would like to arm themselves with a few phrases in Portuguese or Spanish before landing.

The second edition of Dr. HARRY MERRALL's little work on *Resistance to Disease*[9] differs from the first, which appeared about two years ago (JOURNAL, May 16th, 1925, p. 931), by the addition of a new preface and the prescriptions for some throat pigments.

[8] *Brown's Madeira, Canary Islands, and Azores.* By A. Samler Brown. Thirteenth and revised edition. London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd. 1927. (Cr. 8vo, pp. xx + 380; 22 maps and plans. 7s. 6d. net.)

[9] *Resistance to Disease.* By Harry Merrall, M.B., Ch.B. Revised, enlarged, and cheaper edition. London: Williams and Norgate, Ltd. 1927. (Cr. 8vo, pp. xxxv + 181. 6s. net.)

THE HEALTH OF THE ARMY.

ANNUAL REPORT FOR 1925.

IN March, 1925, we reviewed the report on the health of the army for the year 1922, and drew attention to the delay in the issue of these annual reports. Since then, and within a space of little over twelve months, the reports for 1923, 1924, and 1925 have appeared, an achievement on the part of the Medical Department of the War Office which merits grateful recognition by all who peruse these reports before the interest in them has subsided. The report for 1924 came under review only nine months ago, and we have now received the report for 1925.[1] In this respect the Army Medical Service has forged ahead of the Royal Navy and the Air Force, and has drawn level with the United States Army Medical Department.

The 1925 report is similar in character and extent to that of the previous year. Both at home and abroad the health of the army continues to be satisfactory, reductions being noticeable in the admission, death, invaliding, and constantly sick rates.

The admission rate for officers, with a strength of 9,909, was 296.3, and the death rate 4.44 per 1,000, as compared with 284.4 and 5.86 in 1924. The corresponding rates for other ranks, with an average strength of 193,597, were 446.2 and 2.35, as compared with 484.7 and 2.8 in the previous year. The invaliding ratio was 11.12, as compared with 13 per 1,000 in 1924 and 14.5 in 1923. The constantly sick rate—25.7 per 1,000—also showed a decrease from 27.11 in 1924.

Among the causes of admission to hospital, malaria (10,019 cases) heads the list as in previous years, but the ratio has fallen from 71.0 to 51.8 per 1,000 of strength. Venereal diseases (8,591 cases) come next, and show a decrease of 600 on the admissions for 1924. Tonsillitis (6,008 cases), inflammation of areolar tissue (4,582), bronchitis (3,286), influenza (3,047), sprains (2,592), and sandfly fever (2,397) follow, in practically the same order as in the previous year, as the chief causes of admission, influenza alone showing any marked decrease in the ratio.

With the exception of the small garrison in West Africa, no command showed a ratio of admissions amounting to 1,000 per 1,000. In West Africa it was 1,016.8. The most marked reduction is in the Army of the Rhine, where the ratio fell to 289.7 per 1,000 from 345.9 in 1924 and 466.5 in 1923. The decrease cannot be attributed, as in the previous year, to a great reduction in venereal diseases, although the latter have decreased from 38.4 per 1,000 in 1924 to 30.7 in 1925. The health of the Army of the Rhine in 1925 was only equalled by the health of the comparatively small garrisons of Bermuda and Mauritius, and with the exception of these two shows the lowest admission rate of any other command.

The report contains many interesting notes on the chief diseases. Again we find that the amoebic type of dysentery preponderates. Of the total admissions for dysentery 67.9 per cent. were diagnosed as amoebic; but the report draws attention to the fact that special bacteriological investigations have resulted in more precise differentiation of the types of the disease. At the same time, it is difficult to get away from the impression that amoebic dysentery is the prevailing type east of Suez and bacillary the type west of Suez. In Egypt, for example, in 55 out of 62 admissions, 40 were bacillary and 15 amoebic, whereas in India 498 of a total of 725 admissions were diagnosed as amoebic. Against this, however, it must be noted that in one district, Poona, bacillary infection was the main cause of admission. Much stress is laid in the report to the importance of the investigations in relation to principles of prevention and treatment. It may be noted in this connexion that the prevention of bacillary dysentery by prophylactic vaccines has not yet become a practical proposition in the army; and that both forms of the disease are considered to be largely due to contamination of food by flies.

There were 218 admissions for enteric fevers, 184 of the cases occurring in India. Little light, however, is thrown on the effects of prophylactic inoculations. Reports in this respect refer only to 5 cases at home, none of whom were inoculated, and 9 cases abroad, exclusive of India, of whom 5 had been inoculated. The only information regarding cases in India is the statement that 86.5 per cent. of the officers and 95.3 per cent. of other ranks had prophylactic inoculations; but to what extent the 184 cases occurred amongst the non-inoculated is not recorded.

Venereal diseases, which in recent years have remarkably declined in the army both at home and abroad, show a slight further decline in 1925. The ratio for the whole army was 44.4 per 1,000, as compared with 47.8 in 1924. In the home commands alone it was only 22.3. The chief cause of admission was gonorrhoea, admissions for other types of venereal disease being insignificant. Some interesting observations on the value of preventive measures are recorded. In Malta a decrease in the admission ratio from 41.4 in 1924 to 24.8 in 1925 is attributed to the establishment of preventive ablution centres in certain streets; and in Quetta, out of 6,057 men who used a central prophylactic treatment room in the bazaar, only 8 are stated to have developed venereal disease subsequently. Considerable research work in connexion with gonorrhoeal vaccines is also recorded in the report.

The only other group of diseases that are extensively dealt with are diseases of the digestive system. They formed the subject of special investigations by all modern methods of diagnosis and treatment. The number of admissions for gastritis, indigestion, duodenal and gastric ulcers, and appendicitis was formidable, and was responsible for a high constantly sick rate. The investigations were carried out in connexion with them by fractional test and barium meals, presence of occult blood, fluoroscopy, and radiography, and the results correlated.

As in previous reports since the war, special notes are included in the report for 1925 on the work of the departments of medicine, surgery, hygiene, and pathology. These are now a feature in the annual reports on the health of the army, and should be an encouragement to young medical men who are anxious for opportunities of good scientific and professional work to adopt an army career. A short account of dental work in the army is also of interest, and shows how this important service is growing.

The section dealing with the medical examination of recruits gives the number examined as 57,447, of whom 20,405, or 355.19 per 1,000, were rejected or discharged within six months of enlistment. The ratio in 1924 was 393.49. The chief causes of rejection, as in previous years, were deafness and ear diseases, loss or decay of many teeth, defective vision, heart diseases, and defects in lower limbs. As regards invaliding, middle ear diseases accounted for the majority of the cases, tuberculosis and valvular disease of the heart coming next in order. Other sections of the report comprise detailed statistics and notes on the health of the troops in each command at home and abroad, of gentlemen cadets, the boys' technical school, Beachley, and the women and children on the strength of the army.

[1] *Report on the Health of the Army for the Year 1925.* Vol. lxi. London: H.M. Stationery Office. 1927. (8vo, pp. iv + 152, with 73 statistical tables and 2 charts. Price 3s. 6d. net.)

British Medical Journal.

SATURDAY, APRIL 16TH, 1927.

THE PREVENTION AND CONTROL OF RHEUMATIC INFECTION IN CHILDHOOD.

IN the SUPPLEMENT this week is published the second report presented to the Science Committee of the British Medical Association by the Subcommittee set up in January, 1924, "to inquire into the steps which have been, and are being, taken in relation to the prevention, detection, and treatment of cardiac disease in children, and to make proposals in connexion therewith." The first report of the Subcommittee, which was published in the SUPPLEMENT for July 3rd, 1926, laid down certain general principles for the prevention and treatment of rheumatic heart disease in childhood. The present report furnishes the application of those principles to practical politics. Its object is to suggest in a more detailed form the steps which any national campaign against this disease should follow. In preparing these suggestions the Subcommittee had the valuable assistance of Dr. C. O. Hawthorne (Chairman of the Science Committee) and Dr. H. B. Brackenbury, and of Dr. J. Alison Glover of the Ministry of Health. Besides the material collected for the first report the Subcommittee examined a large mass of additional information prepared by its Honorary Secretary, Dr. Reginald Miller, who presents it in a summarized form in an appendix to the new report.

The reader of this second report cannot fail to be struck by two things. First, it deals rather with treatment than with prevention. This does not imply an underestimation of the supreme importance of prevention. It merely reflects the imperfect state of our knowledge of the causes predisposing to rheumatic infection, confessed by Dr. G. F. Still in his summary of the recent Medical Research Council report on the same subject.[1] It is possible that further research into environmental conditions may bring to light more definite bases for a policy of prevention. For the collection of the data necessary for such an investigation the Subcommittee favours voluntary effort rather than compulsory notification, having regard to the difficulties, administrative and clinical, by which the latter course would be hampered. In the meantime the Subcommittee has expressed in action its declared belief in the importance of preventing damp in dwellings by taking into counsel the Royal Institute of British Architects, who will doubtless report on the matter after giving it due consideration.

It is in the proposals for dealing with children already injured by the disease that the second great feature of the report stands out—namely, its preference for the co-ordination of existing agencies over the establishment of any new *ad hoc* service. Those agencies are the family practitioner, the school medical service, and the voluntary hospitals. The onus of making an early diagnosis falls especially on the first and the second of these, while the third can help here also by offering expert assistance. There is no need to set up new machinery for dealing with this part of the task. Indeed, the report emphasizes the unwisdom of any plan which would hand over the diagnosis of rheumatic infection in childhood to a specially appointed service of officers working in isolated clinics.

In the treatment of the disease, however, it is clear that the existing machinery is inadequate. Increased knowledge of the pathology of rheumatic heart disease has taught us that the infection tends to persist, often in a latent form, for periods of years. To meet this tendency the report proposes that a register of rheumatic children shall be kept so that the children may be re-examined periodically as far as is thought necessary. This is in accordance with the general trend of hospital policy in this country, and even more in America, where the "follow-up" organization is regarded as an essential part of every efficient hospital.

The final paragraphs of the report deal with another means of prolonged treatment in which America has taken the lead—more, we believe, owing to circumstances over which we have no control than to blindness or lassitude on the part of British clinicians. As long ago as 1912 Dr. F. J. Poynton, to whose unwearied labours on behalf of the rheumatic child the whole world stands in debt, said, at the Liverpool meeting of the British Medical Association, that he looked forward to the foundation of proper homes for the convalescence of the rheumatic child. So far as this country is concerned, however, these hopes were soon to be destroyed, or at all events deferred, by the European war.

The Subcommittee's first report included a valuable summary by Drs. G. A. Allan and A. P. Thomson of the provision already made in this country for the organized after-care of rheumatic children. From a perusal of this it is clear that there is as yet little accommodation for the prolonged institutional treatment of these children, and that the Subcommittee was justified in pleading for its rapid expansion. In the second report the lines upon which such accommodation should be provided are suggested: close touch with the existing voluntary hospitals, provision of means of education to run concurrently with treatment, and union with similar institutions treating other crippling diseases of childhood. No one expects to see miracles achieved by these methods, yet those who are most experienced in the treatment of rheumatic heart disease in childhood have borne witness to the possibility of arrest, and even of cure, in an appreciable proportion of cases if early diagnosis is made and treatment carried out over an adequate period. It is to the provision of these two essentials, chiefly by the co-ordination of means already in being, that the bulk of this eminently practical report is devoted, and we are confident that the medical profession in this country will not be slow to adopt its recommendations.

[1] See BRITISH MEDICAL JOURNAL, March 12th, 1927, p. 480.

STONEMASON'S LUNG.

AN interesting turn was given to the discussion on the parlous state of the stonework of the Palace at Westminster in the House of Commons on March 31st, when three Labour members raised the question of the effect on the health of the quarriers and dressers of the hard siliceous Darley Dale sandstone, recommended for the repairs by the Office of Works. A million pounds and more is to be expended over a period of fifteen years. The debate made a picture of what must have been the ordinary procedure in any guild-hall in the Middle Ages when an important building was to be erected, because we had an architectural sculptor, a builder, and a carpenter expressing

their views, the result of practical knowledge, on the importance of avoiding in the future the glaring faults of the past.

After the Thames itself, it is the Portland stone, of which practically all the public buildings except the Houses of Parliament are built, that gives London one of its chief beauties. Barry's design for a Gothic pile unfortunately required a stone which lent itself to elaborate undercutting and carving of statuary, pinnacles, and other ornament. He therefore discarded Portland stone, preferring a magnesium limestone from Anston in Yorkshire. Subsequently almost every mistake that could be made with this stone was made, such as face bedding—that is to say, placing the horizontal bed of the stone in a vertical position. The sculptors carved too well, and the smoky atmosphere of London, charged with sulphuric acid from the combustion of coal, shows no mercy to delicate stone tracery, with the result that, as a purely "safety first" measure, £37,000 has been spent simply on "hand-picking" the decayed portions. Portland stone was advocated by the Labour members, not only for its durability, but also because, as a limestone, it is innocuous, or nearly so, to the lungs; whereas sandstone is notoriously the building stone most productive of silicosis. Some interesting figures comparing these two classes of stone were given. Thus, as compared with a general phthisis death rate of 1.4 per 1,000 in the years 1901-10, the rate was 13.7 among 124 gritstone workers in Derbyshire and 7 per 1,000 among 426 stone workers (some in limestone) in the two Matlocks and Darleys. Among colliers in the same district it was 0.68. The Registrar-General's comparative mortality figures for phthisis for 1910-12 were also quoted—142 for all males between 25 and 65 years of age, 127 for granite dressers, 129 for limestone workers, and 451 for sandstone masons.

Nowhere in the memorandum drawn up by the Office of Works is the question of the healthiness or otherwise of working these stones mentioned, presumably because that aspect never entered the minds of the responsible parties. Attempt was made on behalf of the Office of Works to maintain that the figures were based on the census of 1910, and therefore could not be taken as reliable to-day. This is a familiar way of shelving an awkward question. Clinical symptoms do not alter when conditions remain the same, and it is an unfortunate fact that no means external to the worker—conditions, that is to say, over which he can exercise control—such as flexible ducts connected with fans to take away the dust, have been introduced into stone-cutting operations. It may be possible, however, to adapt the pneumatic tools now increasingly used to consume their own dust by means of the exhaust for the compressed air.

At any rate, the ventilation of this subject in the House of Commons will ensure now that the best brains are brought to bear on this very difficult problem. For a dozen years or more some scores of sandstone masons will be working within the precincts of the Palace of Westminster—ideally near the Chamber, therefore, for complaints to be heard and attended to. How many other dangerous trades would wish to be similarly placed!

It must have been obvious to those who raised the discussion that a self-denying ordinance in the case of the Houses of Parliament against the Darley Dale stone was illogical, if its use was not to be prohibited altogether. It was alleged, too, that Portland stone would cost three times as much. Still, Government departments have a way of cheapening at one end and making dearer at the other. It will be interesting to see if the official assurance is borne out: "We do not think that any injurious effects to the workmen will ensue from the use of this stone."

THE ACTION OF SALICYLATES.

THE value of the salicylates is apt to be underrated because these drugs are used for a wide variety of purposes, and the full importance of the aggregate of their actions and uses is not immediately obvious. They are, in fact, one of the most widely used and important groups of drugs in medicine. Acetylsalicylic acid, for example, is used for self-drugging more extensively than any other substance in the *Pharmacopoeia*, if we except alcohol and caffeine. Again, the importance of rheumatic fever as one of the chief causes of permanent heart injury can scarcely be overestimated, and the salicylates are still our chief remedy in this disease. Finally, chronic muscular rheumatism is one of the commonest causes of partial disability, and here again the salicylates are the chief palliatives we possess. The real importance of these drugs in this last connexion was probably brought home to many during the first years of the war, when the supply ran short and regimental medical officers had to face sick parades with scarcely any salicylates available.

Dr. P. J. Hanzlik, Professor of Pharmacology, Stanford University, California, has recently published a monograph[1] on the action and uses of the salicylates and cinchophen in medicine, which is of particular interest because he has himself carried out extensive researches on the subject and can base his judgements on first-hand knowledge. Cinchophen, which is best known in this country by trade names, such as agotan or atophan, shows close affinities to the salicylates in its pharmacological actions, and although its most specific action is its power to increase the excretion of uric acid, yet its effect in relieving chronic rheumatism is important and perhaps more generally useful. Professor Hanzlik has collected all the evidence available, and a bibliography of some eight hundred references bears testimony to his industry. Nevertheless the outstanding impression left after a study of all he has to tell us is that our ignorance regarding the mode of action of this important group of drugs is still astonishingly great. This ignorance involves problems of both practical and theoretical importance. For example, clinical workers are almost unanimous in their opinion that the administration of sodium bicarbonate with full doses of salicylates lessens the toxic action of the latter; but apparently most of the controlled observations have failed to confirm this opinion, and Professor Hanzlik quotes an opinion to the effect that this practice rests on tradition rather than on reason. Similarly, the action of salicylates in relieving the symptoms of rheumatic fever is one of the most striking therapeutic effects seen in a hospital ward, and yet we know really nothing of the means by which this effect is produced. Hanzlik is emphatic that it is not a specific action, and concludes: "Hence, it appears that the relief of rheumatic fever by salicyl and cinchophen is mediated through the antipyresis and analgesia produced by these agents, which act rather efficiently, permitting

[1] *Action and Uses of the Salicylates and Cinchophen in Medicine.* By P. J. Hanzlik, M.D. Medicine Monographs, Vol. IX. London: Baillière, Tindall and Cox; Baltimore: The Williams and Wilkins Company. 1927. (Med. 8vo, pp. 200; 12 figures. 16s. net.)

comfort and rest while the joint symptoms disappear spontaneously and gradually."

Probably these conclusions will be doubted by many clinicians, but even if they are accepted they do not carry us very far, because we do not know the mode in which these drugs exert their antipyretic and analgesic actions. Barbour has advanced the theory that these effects are secondary to blood dilution, but Hanzlik appears to doubt the accuracy of this conclusion.

Since uncertainty exists regarding the most obvious and definite actions of the salicylates, it is needless to say that our ignorance is even more complete regarding their less dramatic effects. Most of the important actions of salicylates unfortunately cannot be tested by animal experiments, and will have to be solved by the more difficult method of clinical observation. In spite of the extensive literature on the subject, nearly all the questions of prime importance are unsolved, and the mode of action of the salicylates still offers a very profitable field for clinical research. If Professor Hanzlik's summary of our current knowledge—or rather, perhaps, of our current ignorance—regarding the mode of action of these drugs stimulates further investigation it will have served a very useful purpose.

INTERNATIONAL ANATOMICAL CONGRESS, LONDON.

On April 11th, 12th, and 13th the Association des Anatomistes held its annual meeting, under the presidency of Professor Brachet, conjointly with that of the Anatomical Society of Great Britain and Ireland, under the presidency of Professor Elliot Smith, at University College, London. This is the first occasion on which such a meeting has been held in England, and it attracted a large gathering of anatomists from France, Belgium, Holland, Spain, Portugal, Italy, Switzerland, Poland, and Czecho-Slovakia, as well as from most of the British medical schools. There was a very full programme of communications and demonstrations, and the discussions were marked by a zest and geniality that revealed the deep interest in anatomical research and the reality of the anatomists' *entente*. Professor J. T. Wilson showed preparations suggesting that maternal haemopoiesis took place in the placenta. Some of the famous early embryos of man and other vertebrates were shown by Professors J. P. Hill, Teacher, and Bryce, and several others. A large part of the programme was devoted to cytology, the constitution of the cell, the processes of oogenesis and spermatogenesis, and fertilization, a remarkable demonstration by Professor Dalcq of Brussels of the processes of fertilization in the frog's egg, and Professor Parat's (Paris) account of the respective roles of mitochondria, the Golgi apparatus, and lipoids in oogenesis, arousing special interest and lively discussion. The Golgi apparatus in particular seemed to provoke the sharpest differences of opinion amongst those who specialize in that elusive study. Several communications were devoted to the sympathetic nervous system, of which the most noteworthy was Dr. Woollard's beautiful demonstration (by means of the methylene blue stain) of the existence in the striated muscles of mammals and birds of the two sharply contrasted types of muscle fibres and nerve endings to which the late Professor Kulchitsky called attention in reptiles (BRITISH MEDICAL JOURNAL, February 7th, 1925, p. 340)—that is, the existence of very fine muscle fibres innervated by non-medullated nerve fibres ending epilemmally in numerous grape-like terminations, sharply contrasted with the hypolemmal end-plates of the medullated fibres in the coarser muscle fibres. Professor Vonwiller (Zürich) gave a very startling exhibition of the internal structure of living plants and animals as revealed by a modification of the ophthalmologist's slit-lamp. But the communications were so many and so varied that it is impossible to summarize them. The meeting has demonstrated how much more living the subject of anatomy is becoming, and revealed the vital interest that anatomists are taking in the new vision of their subject which improved optical devices, radiology, and experimental methods are providing. During the meeting a conversazione was held at University College, at which demonstrations of x-ray cinematography, and a series of anthropological, histological, and embryological specimens of exceptional interest were shown, including microphotographs of Mr. Thorton Carter's sections of the enamel of a variety of vertebrate teeth, Professor J. P. Hill's early embryos of monotremes, marsupials, and of the rabbit, microphotographs of the late Professor Kulchitsky's exquisite preparations of the nerve endings in muscles, and Dr. H. A. Harris's radiological demonstration of the records in the bones of living people of their life-histories—the lines due to cessation of growth caused by illness or malnutrition. A reception was held at the Wellcome Historical Medical Museum. The Zoological Society also gave the visitors the opportunity of visiting its gardens and aquarium. On April 13th the members of the congress dined at King's College, and were honoured by the presence of the French Ambassador. On April 14th the foreign visitors go to Cambridge as Professor Wilson's guests.

THE LISTER CENTENARY IN LONDON.

Not much remains to be added to the very full account of the Lister centenary celebrations in London published last week. We then mentioned that the Royal College of Surgeons of England gave a conversazione on the afternoon of April 5th, which was very largely attended; but the hospitality of the College did not quite end here, for on the evening of April 7th the President and Lady Moynihan gave a dinner in the library of the College. The occasion was remarkable, if not unprecedented, as the guests included ladies and men in about equal numbers. The guests sat at a number of round tables, and the proceedings were of an intimate and informal character. The chief guests were the Prime Minister and Mrs. Baldwin, but we will not attempt to enumerate the many other distinguished persons who were present. Sir Berkeley Moynihan gave the toast of "The King," but no speeches were made, and the guests were liberated early to inspect the collection of personal mementos of Lord Lister and of instruments and scientific apparatus used by him, of which some account was given last week (p. 675), as well as the more familiar objects always displayed in the various rooms of the museum. On the same evening a large number of guests were received at the Wellcome Historical Medical Museum, when Sir W. Watson Cheyne, who was in the chair, demonstrated some of the apparatus Lister used in his bacteriological investigations, as described and illustrated in these columns last week. Sir Watson Cheyne mentioned some of the difficulties Lister encountered in his pioneer work and the way in which he overcame them, and concluded by a reference to Lady Lister, who had been Lister's devoted helpmeet and amanuensis; they had been everything to one another, and her death was a crushing blow to him. Professor Archibald Young, Regius Professor of Surgery in the University of Glasgow, said that he spoke as the substitute for Sir Hector Cameron, who was to have represented the University, and whose long and faithful service to the master and to his memory would have rendered him peculiarly fitted for that duty on this occasion. The collection formed in the museum by the enterprise of Mr. Wellcome well illustrated the progress of Lister's ideas and the evolution of his method, and made it possible to study them in a way which neither oral narration nor written

description could permit. Professor Young quoted figures showing the mortality of major operations in the Glasgow Royal Infirmary in 1825, 1853, and 1925, which showed the comparative infrequency of that confession of failure, amputation, since the introduction of antiseptic surgery. Glasgow was proud of the fact that in the wards of its infirmary Lister elaborated his system and brought it to the test, which it so triumphantly stood. Sir William Macewen, the speaker's predecessor in the chair of surgery, was one of Lister's students, and carried some of his principles of surgery further than Lister had done. Indeed, it might be said of him that he was "Ipso Listero Listerior." The Glasgow students' hearts and heads were quickly won by Lister, for when, after one year in Glasgow, he became a candidate for the post of surgeon to the Infirmary, they took the very unusual course of drawing up a petition to the managers in his favour. This petition, which was on view in the Wellcome Museum, was signed by 161 out of 180 students. Lister always referred warmly and gratefully to the support he had from his students, and also to that of his father-in-law, Syme. Sir StClair Thomson said that Lister's personality had a good effect on his neighbours, who could not feel mean or do a mean thing in his presence. His gentle patience and sweet reasonableness won over adversaries—such, for instance, as Bryant and John Wood—and made of them friends and supporters. Much had been heard during the week of Lister's virtues. He had tried to think of his weaknesses, but all he could mention were his unpunctuality, mentioned by his nephew Sir Rickman Godlee, and another, often falsely attributed to Scotsmen, though Lister was not a Scot, that he "joked wi' deefficulty." Lister never felt the pinch of penury, and so was able to devote many years to the training and education of his own mind. He was not a success as a consultant, partly because of his uncommercial attitude to the question of fees, and partly because his personal devotion to the details of dressing wounds was apt to remove the case from the hands of the general practitioner. But his was a detached and lofty soul. Sir John Samuel of Glasgow proposed a vote of thanks to the speakers, which was seconded by Pasteur's grandson, Dr. Pasteur Vallery-Radot of Paris, who, in an excellent speech in French, recalled the cordial relations which existed between Pasteur and Lister and the interdependence of their work. If Lister depended on Pasteur, Pasteur in his turn also depended on another Englishman—Jenner. On the suggestion of Sir StClair Thomson, a telegram of thanks for his hospitality was sent to Mr. Henry Wellcome.

IMHOTEP: THE PHYSICIAN-ARCHITECT.

INTEREST in the contribution made by ancient Egypt to the history of medicine has been greatly stimulated by the light recently thrown on the life and achievements of Imhotep, the famous architect and physician of King Zoser, who reigned about 2980 B.C. Imhotep has long been recognized as the builder of the earliest pyramid—the Step-Pyramid at Sakkarah, not far from Cairo. During the last two years, however, extensive clearances and excavations at the base of this pyramid, directed by Mr. C. M. Firth, have brought to light some remarkable temple buildings which were also constructed by Imhotep, probably at the same time as the pyramid. Amongst these discoveries is a beautiful colonnade eighty-five yards long, composed of forty-eight columns of white limestone arranged in pairs and forming the main approach to the pyramid enclosure. These columns are fluted, and carry remarkable foliage and papyrus capitals, thus revealing an architectural style which archaeologists had not previously met with until a thousand years later. There are also halls finely decorated with blue tiles and exhibiting curious false doors, each ornamented with portraits of King Zoser in different costumes and attitudes. Even more recent than the discovery of these extensive temple buildings is the finding of a mastaba or grave close to the Step-Pyramid, which it is suggested may perhaps be the actual tomb of Imhotep himself, of the great architect and physician who so impressed his fellow countrymen with his skill as a healer of disease that after his death he was raised first of all to the status of medical demigod, and subsequently to that of full deity of medicine. Whether this surmise is true time only will show, but if the adscription should prove to be correct an interesting chapter could be added to the history of Imhotep which has recently been told us by Dr. J. B. Hurry in his illustrated volume published by the Clarendon Press, and reviewed in our columns on October 16th, 1926 (p. 692). Owing to the climatic conditions of Egypt, further excavations must be postponed until next winter, when possibly important revelations bearing on the early history of medicine may be forthcoming. Already, however, enough is known of Imhotep, "the first figure of a physician to stand out clearly from the mists of antiquity," to raise the question whether he, a man of flesh and blood, should not be substituted for his younger and semi-mythical rival Asklepios as the patron deity of medicine.

PRISON PSYCHOSES.

THE morbid mental states included in the category of prison psychoses have been well discussed by Dr. H. T. P. Young, medical officer to H.M. Convict Prison, Parkhurst, in a recent issue of the *Journal of Mental Science*. He defines prison psychoses as special types of mental reactions developing upon conflicts which arise as the result of imprisonment, and possibly from the shock attending the criminal act, trial, and conviction. Among approximately 300 convicts placed under medical observation at Parkhurst recently, disordered states of the prison type were observed in 19. The mental condition in these cases resembles Kraepelin's mild form of paranoia of psychogenic origin. The delusions manifested are of a combined grandiose and persecutory type, based, as a rule, upon a belief in their own innocence and wrongful conviction, and are directed towards police and prison officials. This type of disorder is most commonly met with in recidivists, whose recurring convictions give them a familiarity with police and penal methods. The symptoms do not as a rule develop rapidly; usually a period of six to eighteen months is required. In first offenders the psychosis tends to assume the features of an anxiety neurosis of traumatic origin, and in recidivists that of systematized delusional insanity. As might be expected, the symptoms frequently disappear when the prisoner regains his freedom—that is to say, when he is removed from the traumatic situation which has provoked them. It should be understood that at Parkhurst are concentrated all those convicts whose mental state, at any time subsequent to arrest, has given rise to doubt as to their fitness for ordinary convict conditions. It is thus evident that the proportion of psychoses in convicts which is attributable to the specific effects of the prison environment is small (19 in 300). No doubt the improved conditions under which convicts are now dealt with are responsible for the diminished incidence of the "prison psychoses." Dr. Young is of opinion that impaired health, often due to chronic focal infections, is one of the factors which favour the development of a prison psychosis. An impairment of health appears to exert a definite influence on the minds of certain persons, leading to the production of those fantastic conceptions through which a failure of adaptation may be diverted from reality. Monotonous occupations are also liable to stimulate the tendency to fantasy formation, and Dr. Young states that since the character of prison labour has been altered there has been a diminu-

tion in the intensity and frequency of the prison psychoses. Convicts who are compelled, by reason of some physical defect, to work at the less productive or interesting tasks are, on the whole, more liable to develop morbid states of mind than those whose tasks more closely approximate to the work to which their class is accustomed outside prison. This clinical study has naturally a particular interest for those concerned with the care of convicts who exhibit mental disturbances. It should enable them to seek out and remedy as far as possible those features in the prison environment which appear to be instrumental in the production of psychotic symptoms. The study also has a general psychiatric interest. The prison psychosis would appear to belong to the category of cases to which the terms "psychogenetic," "situation," or "reaction" psychoses have been applied. Instances were sometimes observed in soldiers about to proceed to the front (anticipation psychoses) or who had been in action, and they also occur in civil life in prisoners awaiting trial, or in persons faced with situations calculated to provoke a profound emotional upset—such, for instance, as the discovery of a condition of pregnancy in an unmarried woman. In such cases, where the psychic trauma is sudden and intense, rather than prolonged and insidious as in the prison psychoses, the symptoms take the form of confusion and stupor, or of a "wish-fulfilment" delirium. It is not to be wondered at that individuals faced with situations which threaten their life, involve them in social disgrace or the loss of their liberty, should manifest psychotic symptoms; rather is it surprising that relatively few of them do so. The fact that the incidence of such cases is comparatively small makes it evident that the most important causal factors in the psychoses as a whole are not to be discovered in external circumstances, but in defects of the personality or in morbid states of the organism.

MILD SMALL-POX ON SHIPBOARD.

ON February 25th, 1926, a steamer sailed from London for Sydney, New South Wales, with a complement of 1,203 souls, being 231 of a crew and 972 one-class passengers, mainly emigrants. She touched at Las Palmas, Capetown, Adelaide, and Melbourne, and reached Sydney on May 3rd. On her arrival at Adelaide on April 10th the quarantine officer picked out four missed cases of mild small-pox (alastrim) from the muster of her passengers. At Melbourne two more missed cases were found, and six fresh ones developed. Two further cases, which occurred among the passengers detained in quarantine at Adelaide, raised the total to fourteen. The original case of the outbreak was an English passenger from Consett, county Durham, where the disease had been epidemic. He sickened on March 6th, when ten days at sea, and was logged as suffering from bullae, but was not isolated. The second case, probably infected by the first in the eruptive stage, sickened on March 29th, and was logged as febricula. The third case, who sickened about the same time as the second, did not report sick. The fourth case, who sickened on April 1st, was logged as catarrh and pustular eruption. Two further cases on April 5th complete the number infected from the first case. The remaining group of eight cases sickened from April 13th to 23rd. The diagnosis of the early cases was complicated by the concurrent prevalence on the ship of influenza, measles, and impetigo contagiosa. Two cases occurred in one cabin; three in another; for the rest contact may be presumed. Of the fourteen cases, ten had never been vaccinated, and four had been vaccinated in infancy only. Infection followed the line of greatest opportunity of contact, and selected the unvaccinated to a significant degree. The control measures adopted included vaccination in terms of the Commonwealth Quarantine Act; 1,072 persons were vaccinated, 111 were exempted for cause shown, and 6 conscientious objectors were detained, prosecuted, and fined. The work was got through by one operator at the rate of 100 vaccinations an hour. The methods adopted were: for 90 of the crew scarification, for 150 passengers linear incision, and for the rest acupuncture. The results were uniformly successful. This outbreak of alastrim, which is of interest as occurring in a closed community, is described in a recent report of the Commonwealth Department of Health. The report presents also a review of the results of the vaccinations carried out on persons previously unvaccinated and vaccinated once and twice or oftener, at various age-periods, with respect to the occurrence of the immunity reaction, the accelerated reaction in its two grades, and the typical Jennerian reaction. The protection afforded by previous vaccinations was observed to decrease with the lapse of time.

THE NATIONAL PHYSICAL LABORATORY.

THE report of the National Physical Laboratory at Teddington for the year 1926 is a bulky document, containing accounts of much experimental work in many branches of physics. Amongst matters with a medical interest it is noted that the number of clinical thermometers received for testing again shows a small fall, and that a specially designed *x*-ray equipment is in use for distinguishing different kinds of glass used for the stems of the thermometers. It has been found that the only satisfactory measurement of *x*-ray intensity and dosage involves the use of an ionization chamber. Amongst the hospitals inspected to fulfil the recommendations of the *X*-Ray and Radium Protection Committee, the report makes special mention of the new radiological department of the Edinburgh Royal Infirmary as the largest and most up-to-date *x*-ray department attached to any hospital in this country, or probably elsewhere. It is proposed to use photo-electric methods of spectrophotometry in measurements of ultra-violet light. Work for the Dental Investigation Committee has been continued at the laboratory for the purpose of throwing further light on the phenomena of dental amalgams, and the ageing phenomena in silver-tin alloys and certain analogous alloys of gold. The bulk of the report is concerned with researches in aerodynamics, metallurgy, electricity, and metrology.

POST-GRADUATE TOUR TO AMERICA.

FURTHER details are now available with regard to the post-graduate tour in Canada and the United States of America which is being arranged by the Section of Surgery of the Royal Society of Medicine. Starting from Southampton on August 20th, Quebec will be reached on August 28th, and the following towns will be visited; Montreal, Ottawa, Toronto, Chicago, Rochester, Grand Rapids, Ann Arbor, Detroit, Cleveland, Washington, Baltimore, Philadelphia, New York, and Boston. On the return journey the party will sail from New York on September 24th, Plymouth being reached on October 2nd. The estimated minimum cost of the tour is £138, together with about £25 for out-of-pocket expenses. Fellows of the society other than members of the Surgical Section can join the tour on being nominated by the Tour Committee, but members of the medical profession who are not Fellows of the society, and who wish to accompany the party, must be nominated by two members of the Surgical Section. All those who wish to participate must pay a deposit of £6 on or before May 1st, after which date reservations cannot be guaranteed. Full details may be obtained from Mr. C. Max Page, 134, Harley Street, W.1.

AT a statutory meeting of the Royal College of Physicians of London on April 11th, Sir John Rose Bradford was re-elected President for the ensuing year.

Nova et Vetera.

THE BLACK DEATH.

FEW will fail to admit the fascination exercised by even a second or third hand account of a great pestilence. "Fear," says a character in one of Stevenson's tales, "is the strong passion; it is with fear that you must trifle if you wish to taste the intensest joys of living." It is the dramatization of fear in its grimmest form, panic fear, that we discover in any good account, above all in a contemporary account, of a great pestilence. One wonders whether, if the great pestilence of our own day had not come upon a Western world whose emotions of fear had already been stimulated almost to the point of exhaustion, there might not have been a strange contemporary story to record of panic and horror.

The great pestilence of 1348-50 has been well described by several modern authors; two of the best accounts, those of Cardinal Gasquet and Dr. Charles Creighton, were originally written in English, while Hecker's story—uncritical, indeed, but learned and well written—has long been available to English readers in translation. To those who can read German, Heinrich Haeser's account (in the third volume of his *Lehrbuch der Geschichte der Medicin*, a book which, whether in point of scholarship or literary charm, has seldom been surpassed) can be recommended as never likely to be improved upon. All these writers—especially Haeser, who gives a very useful collection of the most important records—quote eye-witnesses copiously, but they did not confine themselves to the compilation of such records nor seek to be exhaustive in this respect. Further, the most recent of the books quoted was published more than thirty years ago; since then a certain amount of important historical information has been brought to light, while the reappearance of bubonic plague on a large scale in countries accessible to scientific investigation has led to discoveries completely revolutionizing our doctrines of the epidemiology of the disease.

The author of the book which has recently appeared in an English translation with the title *The Black Death: A Chronicle of the Plague*[1] has profited by the former but very little by the latter additions to knowledge. We do not know whether Johannes Nohl is a medical man, and, it is not always easy to distinguish between his own views and those of his authorities, but there are some passages—for example, on pp. 112-113—which suggest that his acquaintance with modern work is rather superficial. Even from the historical point of view, the book is open to criticism. It is a little disconcerting to find, at the beginning of the first chapter, the unqualified assertion that "The name 'Black Death,' which was commonly given to the plague of 1348, must be regarded as the expression of the horror aroused by this uncanny disease. Popular imagination depicted it as a man mounted on a black horse, or else as a black giant striding along, his head reaching above the roofs of the houses." As a matter of fact, Gasquet pointed out that the name Black Death, *atra mors*, is not older than the seventeenth century. It is also strange to find Defoe's interesting fiction termed "a masterly history of the Plague of London in 1664 and 1665." Finally, although a bibliography is appended, it is impossible to connect passages, even when cited between inverted commas in the text, with the sources from which they come.

It would be unfair to judge the original by a translation, and we have not seen the original, but if the translator has done his author justice, we cannot say that Mr. Nohl is of the class, including Hecker, Haeser, Hirsch, and Sudhoff, which made Germany superior even to France in the field of medical-historical scholarship. Still, it would be unjust and ungrateful both to Mr. Nohl and his translator not to say that this book does bring together in a convenient form a great deal of painfully interesting information. Many examples are given of the horrors of the persecutions of the Jews, and a graphic account of the experience of Suso, a South German mystic, sent on the business of his convent with a half-witted servant into Alsace in 1348. The idiot's foolish talk aroused suspicion that he was one of the well-poisoners; he was haled before the provost, and to save himself asserted that his master (who was carrying a mail bag) was the culprit. Suso, on returning to his inn, hearing that his servant had been arrested but nothing of the rumour, hurried to the provost, secured his servant's release, and was then set upon by a howling mob, from whom he escaped with his bare life. In Rostock, a priest who had been tending the sick was suspected of plague-making. He was imprisoned, bound and gagged, for twenty-six weeks, and tortured in various ways. When, ultimately, he was acquitted he was required to swear that he would make no complaints of his treatment. The torturing to death of a barber in Milan, not in the Middle Ages but on July 17th, 1630, is a hideous story. This man and a commissioner of the health office were thus treated.

> "First they were placed upon a cart and driven to the place of execution. On the way they were pinched with glowing tongs at every place where poison had been smeared; before Mora's house they both had their right hands cut off, and subsequently they were both broken on the wheel, being placed living on the wheel and strangled after six hours, their corpses were burnt with fire, their ashes strewn upon the water, Mora's dwelling was pulled down and in its place a column of disgrace was erected with the following inscription:
>
> "'On this spot stood the barber's shop of John Jacob Mora, who conspired, together with William Platea, an official of the public health offices, during an epidemic of plague, by smearing mortal ointments to contrive the cruel death of many.'"

Long after, this document, dictated to a confessor, was published:

> "In the name of Jesus, the 31st July, 1630,[2] I, Jacobus Mora, barber, enter protest against my sentence to death and, as I do not wish to leave this world with a weight upon my conscience, I once more protest and declare in this document that all who in the course of this trial were accused by me to have been concerned in the manipulation of pestilential ointments are completely innocent. I write this in the presence of the Capuchin fathers and witnesses for the salvation of my soul."

Such instances are examples of the purely horrible effects of fear. Of the grotesquely horrible atmosphere of plague times an instance may be given. It is from Regensburg, apparently at the end of the seventeenth century.

> "A street-sweeper of the name of Zacherl was appointed gravedigger at the pest house; he was at constant loggerheads with the cook. When the latter died of the plague he laid her over his shoulder and carried her to the plague burying ground; he stripped her naked of her clothes and, as he only found one single small coin on her, he tore a strip from her chemise, rolled it up like a sausage and inserted it in her uterus,[3] the coin he thrust into her nostril, and, hurling her into the trench, he said: 'Lie there, you beast; you never would cook me a good soup.'"

These are neither the most gruesome nor the most grotesque stories in the book. Perhaps for grotesqueness we should give the palm to remedies against plague, often prescribed by members of our faculty. "A wash with urine," says one pundit, "does more than any other preventive, more particularly when, in addition, the urine was drunk." We, however, have no sure remedies against pestilence, and probably we too should come under the empire of fear if such a mortality as that of 1348-50 were pandemic. But it is reasonable to believe that our fear would not find such horrible methods of expression as it found in civilized societies even much later than the reign of Edward III.

[1] *The Black Death: A Chronicle of the Plague.* Compiled by Johannes Nohl from contemporary sources. Translated by C. H. Clarke, Ph.D. London: George Allen and Unwin. 1926. (Demy 8vo, pp. 284; illustrated. 12s. 6d. net.)

[2] Cited from Nohl, p. 178, but on page 176 the execution is said to have taken place on July 17th.

[3] As the German text is not before us, we cannot determine whether this is correctly translated.

THERAPEUTIC SUBSTANCES ACT.

ISSUE OF DRAFT REGULATIONS.

THE aim of the Therapeutic Substances Act, which became law on August 7th, 1925, is to provide for effective control of the quality and the authenticity of such therapeutic substances as cannot be adequately tested by direct chemical means. This it seeks to do by regulating their manufacture, testing, sale, and importation. Substances of this kind fall into three categories. The first includes such biological preparations as vaccines, serums, toxins and antitoxins and antigens; the second, the group of synthetic products comprising salvarsan and its analogues; and the third consists of insulin and preparations of the pituitary gland intended for use by injection.

An article summarizing the main provisions of the Act, and describing the circumstances that led to the placing of this much-needed measure on the Statute Book, appeared in the SUPPLEMENT of September 12th, 1925, p. 105. The Act, which applies to England, Scotland, and Northern Ireland, declares that the manufacture of the scheduled substances is to be conducted only by persons and on premises specially licensed for the purpose, and under conditions laid down by the Licensing Authority, such authority being: for England, the Minister of Health; for Scotland, the Secretary of State for Scotland; and for Northern Ireland, the Minister for Home Affairs. The duty of defining standards, and thus securing uniformity, was entrusted to a Joint Committee consisting of the three authorities named, or their deputies, and acting after consultation with an expert advisory committee. The advisory committee consisted of Sir George Newman (chairman), representing the Ministry of Health; Mr. John Jeffrey, Scottish Board of Health; Sir Thomas Houston, the Ministry of Home Affairs in Northern Ireland; Dr. H. H. Dale, Medical Research Council; Sir Nestor Tirard, General Medical Council; Dr. C. O. Hawthorne, British Medical Association; Dr. J. H. Burn, Pharmaceutical Society of Great Britain; and Dr. J. F. Tocher, Institute of Chemistry.

The Joint Committee was empowered, after consultation with its advisory committee, to make Regulations prescribing the standard of strength, quality, and purity of any substances to which the Act applies, the tests to be used to determine whether that standard has been attained, the units of standardization to be employed, the form of the licences, and the conditions of their issue. The Joint Committee may also, by regulation, add to the schedule of the Act any therapeutic substance whose purity or potency cannot be adequately tested by purely chemical means. All imports must be consigned to a person duly licensed, and must satisfy the authority that they comply with the standards in force for the home products. The application of the Act was restricted in three directions. Medical practitioners were left free to prepare any of these substances for the use of an individual patient; special licences to import were to be issuable to persons engaged in research, such licences allowing the import for experimental purposes of substances not complying with the standards laid down; and power was given to the Joint Committee to exclude from the application of the Act substances intended for veterinary use alone. Lastly, the Act prescribed that the Regulations made under it should be laid before both Houses of Parliament and subject to modification or annulment under the ordinary procedure on presentation of an address by either House.

The Therapeutic Substances Regulations, 1927.

The Joint Committee, after consultation with the advisory committee, has now issued draft Regulations,[1] to come into force on August 6th next. These prescribe the conditions under which licences will be issued for manufacture and importation, and deal in detail with standards of strength, quality, and purity and with such matters as containers, labels, and so forth. The work incidental to the determination of the required standards has been carried out by the Medical Research Council or under its direction.

Part I of the Regulations is concerned with their interpretation, etc. Part II governs the issue of licences to manufacturers, and specifies the general conditions to which every licensee shall be subject, in addition to the special conditions, if any, set out in the relative schedule. These general conditions relate to the provision of adequate staff, premises, and plant for testing strength, quality, and purity, including proper housing for animals used for such tests; to the keeping of permanent records of the details of manufacture of each batch and its testing; to the provision of facilities for inspection of premises, plant, and processes of manufacture and testing; and to the furnishing of samples. Where a licensee contravenes or fails to comply with some condition of his manufacturer's licence, or with any of the Regulations, but not so as to justify its revocation or suspension, the Licensing Authority may compel him to submit a sample of every batch of the substance, and forbid him to sell or offer for sale any batch without a certificate authorizing him to do so.

Part III directs *inter alia* that if any of these therapeutic substances is advertised or sold as a proprietary medicine the "proper name" of the substance as given in the schedule must appear on the label. The sale of any substance after the date stated on its container is forbidden, except where a medical practitioner, being aware of the date, is satisfied that the sale is required by the urgency of the case. No substance is to be sold except in sterilized glass containers adequately sealed, and stringent conditions are laid down regarding the particulars to be entered on labels. Part IV is concerned with standards of strength, quality, and purity, and with tests for determining whether these standards have been attained. Such standards and tests are specified in the relative schedules. Detailed instructions are given regarding tests for the presence of living aerobic or anaerobic bacteria, the procedure to be adopted if a growth of micro-organisms is visible at such examinations, and the testing of substances, by inoculation into mouse and guinea-pig, for freedom from abnormal toxicity.

Part V lays down the conditions to be observed by persons licensed to import therapeutic substances for purposes other than those of scientific research, and Part VI deals with research licences. Part VII exempts from the application of the Act and Regulations any therapeutic substance labelled "to be used solely for veterinary purposes" and intended to be so used.

Schedules to the Regulations.

The first schedule sets out forms of application and forms of licence for the manufacture and import of therapeutic substances.

The second schedule sets out the provisions applicable to (1) the production of bacterial vaccines and vaccine lymph; (2) the reagents used in the Schick test, and the testing of diphtheria prophylactic; (3) tuberculin and other preparations from *B. tuberculosis* and its cultures; (4) the production of all serums from living animals, and of particular serums and antitoxins. The special provisions apply respectively to antimeningococcal serum and other serums for which no potency test is prescribed, to antidysentery serum (Shiga) and other antidysentery serums, to diphtheria antitoxin, and to tetanus antitoxin.

The third schedule sets out general provisions applicable to salvarsan and its derivatives, together with special provisions applicable respectively to salvarsan, neosalvarsan, sulphuro-salvarsan, silver-salvarsan, neo-silver-salvarsan, and to derivatives of salvarsan other than those specified.

The fourth schedule lays down the conditions required in respect of insulin, which is defined as "the preparation of the specific antidiabetic principle of the pancreas"; and the fifth schedule deals in corresponding terms with pituitary (posterior lobe) extract, defined as "the watery extract prepared from the separated posterior lobe of the pituitary body."

[1] Draft Rules and Orders, 1927. Therapeutic Substances. London: H.M. Stationery Office. 9d.

THE AUSTRALASIAN MEDICAL CONGRESS

OF THE

BRITISH MEDICAL ASSOCIATION,

DUNEDIN, NEW ZEALAND.

(Continued from page 674.)

THE SCIENTIFIC SECTIONS.

Combined Meetings.

Treatment of Crippling Due to War and Industry.

The subject of crippling resulting from war and industry was considered by a combined meeting of the Sections of Naval and Military Medicine and Orthopaedics.

Dr. H. S. Newland (South Australia), opening the discussion, said that prior to the last war orthopaedics had not been linked in any way with military surgery. During the first eighteen months of the war it became evident that soldiers with certain types of injury needed special treatment, and hospital accommodation was reserved for them; a little later on the need for the establishment of orthopaedic hospitals became urgent. At first about 250 beds had been provided, but by the end of the war the number of these had increased to 30,000. A considerable amount of preventive work was possible, and the orthopaedic service of an army should ensure the exclusion from the combatant forces of men with certain forms of physical unfitness; many of the remediable conditions could be treated before enlistment. During the battle period the orthopaedic service should maintain the efficiency of the men, both at the base and also with the advanced units. Excision of the contaminated tissue surrounding wounds had been the most important measure for preventing deformities, but it must be early in order to prevent sepsis, which was the chief cause of deformity and loss of function. Shock and haemorrhage had, therefore, to be promptly and efficiently treated, tourniquets being avoided as far as possible, and bandages applied with very great care. Foreign bodies and fragments of bone should be removed before the soldier was transferred to the base. The use of the Thomas splint had produced better results in the healing of fractures and in the alleviation of pain during transport. Before its employment became general the mortality among men with fractured thigh bones in the casualty clearing stations alone had been nearly 50 per cent.; this had been reduced to 15.6 per cent. Amputation of the limbs had been necessary in only 17.2 per cent. of the wounded as the result of skilled orthopaedic treatment of the soldier at the base, and subsequent shortening of the limb after fracture of the thigh had been diminished to a surprising extent.

Dr. R. B. Wade (New South Wales) dealt chiefly with treatment of the crippled soldiers in civil life, and spoke in high terms of the value of the work of Sir Robert Jones and Mr. Hugh Owen Thomas. Considerable difficulty in stimulating interest in the treatment of war cripples had arisen from the lack of accurate figures of the numbers in the community handicapped in this way. According to American statistics—which provided the most accurate figures at present available—there were 6 cripples per 1,000 of the population, 30 per cent. being less than 21 years old; 74 per cent. of these were under 6 years old, 18 per cent. between the ages of 6 and 14, and 7 per cent. between the ages of 15 and 19. Crippling was due to disease in 69 per cent. and to accident in 4 per cent., while deformity was congenital in 25 per cent. Infantile paralysis and spastic paralysis were responsible for 67 per cent. of the deformities. Dr. Wade thought that the American figures were approximately correct for Australasia, and it would therefore follow that there were in New Zealand about 9,000 cripples, of whom 3,000 were under the age of 21. In Australia there would be 36,000, including 12,000 under 21 years old. He believed that adequate surgical provision existed, but no means were available for education or vocational training. Since the illness usually occurred early in life and lasted through the main school years, the majority of these children were at the best only partially educated. The speaker pleaded that orthopaedic surgeons should therefore unite in a campaign for educating public opinion. Although it was the function of the State to tackle this problem, there seemed to be no hope of State intervention until public opinion had been stimulated by voluntary organizations. He recommended, therefore, the provision of adequate orthopaedic treatment, district visitors being employed to encourage patients to take advantage of it. Educational training should be established for children in hospitals or attending as out-patients, while special accommodation for crippled children should be attached to general schools. Convalescent homes and vocational schools were also required, and arrangements should be made by unions and arbitration bodies whereby a worker, slow through crippling, should be enabled to obtain a living. Legislation should be introduced to enable the State to provide money for surgical treatment and education.

Parasitology in the Tropics.

Hookworm, trematode infections, and yaws were discussed by a combined meeting of the Sections of Pathology and Preventive Medicine.

Dr. T. R. Ritchie (Samoa) opened with an account of the control of hookworm in a native community. He said that in 1923 a campaign against this parasite had been begun in Samoa based on the work of the Rockefeller Foundation. Each night a lecture was given on the village green, with lantern slides or portable cinema, and early next morning the whole population was dealt with, mass treatment being given as over 90 per cent. of the population harboured the parasite. Systematic treatment had been continued since 1923, everyone being given the opportunity of having treatment at least once a year. A vigorous educational policy had been pursued, special attempts being made to interest the women; committees were formed and duties were assigned to them. An article on hygiene was supplied to every issue of the school journal. The question of the type of latrines had been difficult. At first drop latrines over the sea and pit privies in inland villages had been built; these were being, or would be, replaced by water-carriage systems where piped water supplies became available. In mass treatments they used a mixture of carbon tetrachloride three parts, and oil of chenopodium one part, the dose being 0.12 mils. (2 minims) per year of age, with a maximum dose of 2 mils. (35 minims). This combination removed *Ascaris lumbricoides* as well as hookworm.

Dr. G. A. M. Heydon (Queensland) dealt with the influence in hookworm infection of the species of worm and of the race of man, and on the characters of the larvae as a means of determining the species distribution. He said he had been much impressed by the elusiveness of hookworm disease in New Guinea. The clinical signs and symptoms were conspicuous by their absence, and it was impossible to determine from these whether a patient had a thousand worms or only a few. In North Queensland the picture was different. The infection rate was far lower, but several cases of severe hookworm disease with advanced anaemia had been investigated in white adults. The cases of serious disease seen so far had been caused by *Ancylostoma duodenale*. The worm count method was the only available way of finding out the species distribution of hookworms in a country. Many practical difficulties arose in a white community, and this procedure could not be applied on a large scale even to native races. He gave a detailed account of a method of examination of larvae from faecal cultures. He emphasized the fact that the two species of human hookworms had not the same pathogenic importance; there was great need to determine the prevalence and distribution of each.

Dr. R. W. Cilento (New Guinea) discussed trematode infestations in Northern Melanesia. He said that last year paragonimiasis had been discovered in a native recruited from a distant and rarely visited native village. The disease was dangerous, and as the patient had never been away from his village in his life previously there must be effective intermediary hosts for paragonimiasis in New Guinea. This was the first case found in the Pacific anywhere south of the equator. The symptoms, pathology,

and transmission of the disease were detailed. In New Guinea the local molluscan genera had not been described in readily available papers, but it was obvious that some local species must be capable of transmitting the parasite. Dr. Cilento asked members of the Congress who were practising in the Polynesian Islands to endeavour to determine whether trematode infestations were locally present, so that measures might be introduced to combat what might otherwise become a menace.

Dr. T. R. RITCHIE (Samoa), introducing the subject of yaws, said that systematic work for the control of this condition in Samoa had been undertaken in 1923. The district to be treated was divided into areas which could be readily dealt with in five treatment days. Treatment was given at five selected points in the area with novarsenobillon, and on the sixth day the party retraced its steps to the point of commencement of treatment. Second and third injections were given at the same points during the second and third weeks; thus each case received three injections at weekly intervals. The majority of primary and secondary lesions cleared up with three injections. The administration was not particularly anxious to cure thoroughly every patient. As all adult Samoans had had yaws in their early youth, they were immune from further attack. To treat them thoroughly for tertiary yaws would be to withdraw that immunity, and so render them liable to contract the disease again. Until primary and secondary infections were reduced to a negligible number, the acquired immunity of the adult was better left alone. Meanwhile the children were growing up free of the condition. Cases of syphilis were not seen among Samoans, probably because yaws conferred some immunity to syphilis; to eradicate yaws completely might be dangerous until syphilis was under control.

Delinquency.

The Sections of Neurology and Preventive Medicine united in a discussion of various aspects of delinquency.

Dr. HARVEY SUTTON, dealing with delinquency in New South Wales, included truancy, because it was inseparable from the major problem. Every child that came before the children's court was given a complete medical examination, and it was found that all forms of physical defects were in excess, as compared with the usual finding in the child population. Defects of the nose, throat, and ear were especially prominent, and appeared to intensify maladjustment with the school and everyday life. Parental failure seemed to be the main factor in causing delinquency; industrialism with its overcrowding, poverty, and intemperance formed the background. At puberty a marked rise in minor offences occurred in boys, but in girls the rise was in serious offences—a secondary sex phenomenon shown by the relative frequency of gonorrhoea in girls. Feeblemindedness was important as a causative factor, but should not be overestimated. Dr. Sutton then referred to the programme for the future, and pleaded for reorganization, so that every delinquent should be examined by a psychiatrist, a psychologist, and a social worker (probation officer).

Dr. S. J. MINOGUE (New South Wales) raised the question of crime and insanity, and divided insane criminals into congenital mental defectives and those with other forms of mental disease. In his experience about 50 per cent. of all insane criminals in New South Wales were mentally defective. Their detection was an urgent and much neglected necessity in Australia, and those discovered should be treated in colonies or mental hospitals. Among prisoners suffering from mental diseases other than mental deficiency he found generally that the crime committed was the direct result of the mental disease present. Very few criminals became insane while in prison. Dr. Minogue then discussed the moral imbecile and the victim of irresistible impulses, and the problem they presented in treatment. After referring to legal responsibility of the criminal insane and outlining the procedure adopted in New South Wales, he concluded with some remarks on the attempts now being made in America to reform prisoners by complete and thorough psychological examination and treatment.

Dr. ST. LEGER GRIBBEN (New Zealand) confined his remarks to the adult delinquent. He said that the importance of a knowledge of the offender's mental standing was being increasingly recognized; the International Prisons Congress in England last year had passed a resolution that every person convicted of a crime should be mentally examined before sentence was passed. Dr. Gribben considered that the three essentials for successfully dealing with a delinquent were classification, individualization, and a practical knowledge of the criminal mind and outlook. The question of criminal reform had been much before the public during recent years. The greatest incentive to a criminal to reform would be the realization that it would pay him to do so. He had had some experience of the "honour system," and the results had been highly encouraging; he felt sure that it would be extensively used in the near future. He concluded with a eulogy of those workers engaged in easing the way back to civil life of persons who had fallen under the ban of the law.

Dr. BUCKLEY-TURKINGTON said that medical tests had been performed on infirmary boys in South Australia, and many physical defects, especially of the nose and throat, had been found. In many cases sent by magistrates for medical examination physical defects were in great evidence. Dr. MOORE eulogized the work of Dr. Gribben in prison reform, and said that he had created an impression of discipline in the prison, any prisoner who wished to reform being now given every opportunity to do so.

Spastic Paralysis.

The Sections of Medicine, Neurology, Surgery, and Orthopaedics held a combined meeting for the discussion of spastic paralysis.

Dr. S. V. SEWELL (Victoria) first gave a brief review of the proprioceptive nervous system, outlining the three main pathways of afferent impulses originating in muscles, the first level arc, the second level tonus and posture maintaining arc, and the third, the plastis arc. He also mentioned the cerebellar-cerebral connexions, emphasizing the fronto-pontine fibres. Experimental investigations had shown that the spasticity due to lesions in the internal capsule was caused by the simultaneous involvement of these fronto-pontine fibres, and not by the involvement of the pyramidal tract. Conditions like paralysis agitans, post-encephalitic rigidity, and Wilson's disease were probably instances of disease destroying the inhibitory mechanism of the striate level. It was possible that tonus-maintaining impulses, associated with the maintenance of posture, initiated from the emotional or striate level, found their final common pathway by way of the sympathetic outflow to the muscles; this would account for the slight improvement reported after sympathectomy in cases of post-encephalitic rigidity.

Dr. N. D. ROYLE (New South Wales) gave a cinematographic demonstration on ramisectomy.

Dr. H. R. G. POATE (New South Wales) gave his personal experience of Royle's operation of sympathetic ramisection. He had had under his own immediate care twenty patients on whom the operation had been done, and he had seen many of Dr. Royle's patients both before and after the operation. After dealing with the indications for the operation, he reviewed the operative results, from the point of view both of the observer and of the patient, and gave figures showing that in the main they agreed. In no case was there a failure to obtain a physiological result. This was noticed by the patient immediately he recovered consciousness. The most noticeable post-operative feature in cases in which the lower limbs were affected was the restoration of balance. There was often also some amelioration of the obstinate constipation, and relief from chilblains. In his experience the best results had been obtained in cases of spasticity following cortical injury, and in an occasional case of post-encephalitic rigidity.

Osteitis Fibrosa and Osteitis Deformans.

Inflammations and tumours of bone were discussed by a combined meeting of the Sections of Pathology, Surgery, and Radiology.

Dr. H. R. SEAR (New South Wales) expressed the opinion that osteitis fibrosa and osteitis deformans merged into one another. One of the greatest difficulties that beset a radiographer was the absence of confirmation of many of his

diagnoses. Other workers had since reported cases showing apparently the two lesions in the same patient. He had seen well over two hundred patients, and thought that the lesion of osteitis deformans was much more common in Australia than in other countries. He reviewed a number of cases, and concluded that under the two headings of osteitis deformans and osteitis fibrosa they were dealing with one pathological entity. He considered that the radiological appearance of the skull did not assist in forming a diagnosis.

Various Neurological Subjects.

A combined meeting of the Sections of Neurology and Medicine was held to consider the sequels of encephalitis lethargica and the localization of spinal tumours. A cinematograph demonstration of the teaching of neurology was given by Dr. J. F. MACKEDDIE (Victoria).

Dr. H. F. MAUDSLEY, *M.C.* (Victoria), in a paper on the neurological aspects of the sequels of encephalitis lethargica, said that in the chronic form this disease affected the extrapyramidal motor system, and was generally progressive; Parkinsonism, its commonest form, was due to lesions in the substantia nigra. The corpus striatum gave a non-voluntary component to voluntary movements by tracts passing through the substantia nigra. If this were damaged the involuntary component was lost and bradykinesia, as, for instance, the loss of arm-swinging in walking, ensued. The cause of increased muscle tone was still debated, but increased sympathetic action seemed evident. Many other parts of the brain, such as the pyramidal tracts, the bulb, and the medulla, might be affected and show symptoms. There was no specific treatment, but rest and hygiene were useful, and hyoscine was a valuable drug; he had seen no good from ramisectomy.

Dr. W. MARSHALL MACDONALD (New Zealand) remarked that the disease was important, because it was now playing a considerable part in filling hospitals for chronic cases. The slow evolution of the original disease led to a multiplicity of lesions or sequels. The commonest sequel was Parkinsonism, the mask-like face of which was attributable to the retention of the voluntary with loss of the emotional or automatic movements. He described the physical signs and symptoms that might be elicited and the tests that might be performed. A list was given of the mental, or rather the moral, changes in children, and for these psychotherapy was of little use, but much might be achieved by careful parental control. The moral changes were of special interest to those occupied in medico-legal and pensions work. The forms of treatment were mentioned. He enumerated the resemblances between the mental sequels of lethargic encephalitis and the symptoms which occurred in the ordinary psychoneuroses. He suggested as a field for histological research a possible origin of the psychoneuroses in the excitations and inhibitions due to vascular changes in the mid-brain consequent on nasopharyngeal infections, fevers, or influenza.

Dr. J. F. MACKEDDIE (Victoria), discussing the localization of spinal tumours, said that the discovery of lipiodol with its special properties had rendered possible the exact localization of tumours of the spinal cord, and had thus limited surgical procedure to an exact field where formerly it had been undertaken in too exploratory a fashion. Lipiodol injected into the cisterna magna was held up by any compression area in the spinal cord. The indication for its injection was Froin's syndrome. The harmlessness of the preparation had been amply confirmed. The method of puncture of the cisterna magna was then described in detail. There followed a demonstration of *x*-ray photographs where lipiodol had been successfully used. Recent acquaintance with the new preparation, "lipiodol ascendens," had indicated the ease of its administration and its harmlessness.

Dr. J. RENFREW WHITE (New Zealand), continuing the discussion of the localization of tumours of the spinal cord, said that the non-neurological evidence was obtained by examination of the cerebro-spinal fluid and by radiography. The evidence obtained by lumbar puncture included Froin's syndrome, and measurement of the pressure of fluid in different regions by multiple punctures until the different pressures indicated the site of the block. The injection of substances into the subarachnoid space for radiographic purposes was valuable, but lipiodol had been known to become encysted, and its use was therefore not without danger. Pneumography, in which the cerebro-spinal fluid was replaced by air below the lesion, seemed to obviate this. Ordinary radiography would reveal exostoses, spinal tuberculosis, syphilis, and cancer. Compression from osteo-arthritis might simulate a tumour.

Dr. OLIVER LATHAM (New South Wales) contributed some observations on the examination of the cerebro-spinal fluid to a combined meeting of the Sections of Medicine and Radiology. He described the method of withdrawal and the necessary precautions, giving suggestions as to procedure in connexion with bacteriological and pathological diagnostic requirements. The naked-eye appearances which aroused suspicion of lethargic encephalitis, tuberculous meningitis, and other conditions were mentioned. Bacteriological examination entailed such practices as grouping the meningococci present. The cells should be counted soon after withdrawal. The procedure for investigating the organisms and the cytology was described and the results correlated with the respective diseases. Emphasis was laid on the value of testing for specific proteins in certain diseases, both qualitatively and quantitatively. The gold-sol test had been found eminently useful as being almost pathognostic of general paralysis. The value and applications of the Bordet-Wassermann test, the estimation of chlorides in suspected tuberculous meningitis, and the procedure for glucose and urea estimations were given with deductions. Use was made of a table of the clinical states, the tests used, and the reactions commonly found.

(*To be continued.*)

ROYAL MEDICAL BENEVOLENT FUND.

THE annual meeting of the Royal Medical Benevolent Fund was held in the rooms of the Medical Society of London on April 8th, with Sir THOMAS BARLOW, President of the Fund, in the chair.

Sir CHARTERS SYMONDS, the treasurer, in presenting the financial statement, said that the investments in the general annuity fund, apart from special named bequests, now stood at £96,205. The income derived from invested property during the year was £4,718, as against £4,550 the year before, and the income from subscriptions and donations £7,250, as against £6,685. An increased number of new subscriptions, accounting for £1,050, was noted. The sources of income remained very much the same except for £500 allocated from the Charities Fund of the British Medical Association, for which the committee of the Benevolent Fund was extremely grateful. If this was all new money it was most satisfactory. A generous donation, amounting to £525, had again been received from the Medical Insurance Agency, together with 100 guineas towards the Christmas Gift Fund. Another thing for which the Fund was indebted to the British Medical Association was the suggestion which that Association had made to its members when sending their annual subscriptions to add a certain amount for charity. The sum received as a result of these reminders in 1926 was £1,141, being £51 more than in the previous year. One increasing source of annual income was subscriptions from Panel Committees and local bodies of medical men. The highest subscription in this category was £50, from the Leicester Union of Medical Practitioners. An interesting subscription had come from as far away as Thursday Island, from which outpost a medical officer wrote that he had read with interest and sympathy the accounts of the work of the Fund appearing in the BRITISH MEDICAL JOURNAL, and hoped to send a yearly cheque. On the disbursement side the number of persons who received relief in 1926 was 622, an increase of 52 on the year before, and the relief given had been in 444 cases by means of grants, and in 178 by means of annuities. The amount expended in grants was £5,934, an increase of £563, and in annuities £4,836, an increase of £966.

Dr. NEWTON PITT, one of the honorary secretaries, said that the income was still insufficient for the demands made

upon the Fund. Many of the grants were quite inadequate. It had come within the knowledge of the committee that there were a number of medical men, from 50 to 65 years of age, who lost their practice during the war and had been unable to recover it or to find more than casual employment; some of them were practically starving. During the past year there had been an increase of 52 in the number of applicants for assistance, and not only so, but the distress in individual cases was more acute than formerly. The total number of annuitants had been increased by 11, and the Fund now maintained 26 annuities of £40, 24 of £30, 44 of £26, and 54 of about £20. Dr. Newton Pitt, like his colleague, referred appreciatively to the efforts put forward by the British Medical Association, though he thought the Association would find it by no means an easy matter to secure and maintain any large addition to subscriptions over and above the sources which the charities had already tapped, but the help that was being given was most valuable, and much was hoped from it. Dr. HOWARD STRATFORD said that he believed the British Medical Association was well aware of the difficulty of geting fresh subscription revenue, but it was being encouraged in its efforts.

Sir Thomas Barlow as President, Sir Charters Symonds as treasurer, and Dr. Newton Pitt and Mr. Handfield-Jones as honorary secretaries, were all re-elected, with thanks for their past services, and the committee of management was reappointed, with some slight variations in personnel. Speaking to one of the resolutions of thanks, Dr. C. O. HAWTHORNE said that, although the Fund made its principal appeal to members of the medical profession, contributions from laymen and lay bodies were occasionally received. It sometimes happened that a patient, when he came to pay his doctor's bill, was struck with the disparity between the amount he was asked to pay and the benefit he had received, and in that case a further contribution on his part to the Benevolent Fund would be a tactful and much appreciated way of further discharging his obligation.

New South Wales.

CHAIR OF PSYCHIATRY.

AT a meeting of the Senate of the University of Sydney held in December, 1926, Dr. William S. Dawson was appointed to the professorship of psychiatry rendered vacant by the retirement of Sir John Macpherson. The new professor is a graduate of the University of Oxford (B.A. 1914, M.A. 1918, M.B., B.Ch. 1918, M.D. 1923), is M.R.C.P. London, and holds the Diploma in Psychological Medicine of the University of London. He served for a period of three years in the great war. Dr. Dawson is at present a lecturer in clinical psychiatry in the University of London and senior assistant at the Maudsley Hospital, London, where he has been engaged in teaching students, graduates, and medical officers of mental hospitals. He has had an extensive experience in early cases of mental disorder, and has written papers bearing on psychiatry. He recently spent ten months in the United States as Rockefeller Research Fellow, studying the psychiatric training and the organization of social workers, but principally engaged in research in clinical psychiatry under Professor Meyer at the Phipps Psychiatric Institute, Johns Hopkins Hospital, Baltimore, where he also acted as instructor in medical psychology.

CANCER RESEARCH.

The Cancer Research and Treatment Organization of the University of Sydney has issued a pamphlet containing information for intending applicants for the post of director. A seven-year whole-time appointment is offered at an annual salary of £2,000. The director will be required to have qualifications in some branch of cancer research or treatment; he must be able to take a broad view of the various problems of cancer, have a grasp of the fundamentals of such sciences as are applicable to some of these problems, and possess administrative and organizing ability. A short account is given of the progress made since the beginning of 1921, when a Cancer Research Committee was appointed by the Senate of the University. During the last three years work has proceeded along three main lines—namely, the biophysical, biochemical, and the biological and pathological. A biophysical laboratory has been established, and the effect of homogeneous radiations upon living tissues is being investigated by biologists, physicists, and clinicians, with a view to improving radiotherapeutic technique. Biochemical investigation of malignant tissues and of the body fluids, and of cancerous patients before and after different methods of treatment, is being carried on in the University and the hospital laboratories. The organization is now undertaking treatment as well as research, and is urging the Government of the Commonwealth of Australia to establish a radium bank with a stock of eight grams of the radium for Australian use. In the middle of 1926 an appeal was made for £100,000 to endow research and treatment, and £130,000 has already been received.

Scotland.

SCOTTISH UNIVERSITIES PARLIAMENTARY REPRESENTATION.

A MEETING representative of the Socialist Teachers' Society, the University Labour Club, and the National Labour party was held in Glasgow on April 6th. Mr. Hugh B. Guthrie, M.A., was adopted as the Socialist candidate for the vacancy in the parliamentary representation of the Scottish Universities. Mr. Guthrie accepted the invitation to stand as Socialist candidate and delivered an address to the meeting.

LECTURES ON MENTAL DEFICIENCY.

The Scottish Association for Mental Welfare has arranged a course of lectures on mental deficiency for medical practitioners, more especially those who are engaged as school and parochial medical officers. The course is the first of its kind that has been attempted in Scotland, and the success which has attended those arranged by the Central Association for Mental Welfare in London encourages the Scottish Association to hope for similar success in its venture. The value of such a course to those whose work lies in this direction cannot be doubted, and the eminence of the lecturers whose services have been secured ensures that the various aspects of the subject will be adequately dealt with. The course will be held in Glasgow during the first week in May, and particulars may be had from the secretary, Mr. A. Wright, Education Offices, Paisley.

SMALL-POX IN DUNDEE.

At Dundee, on April 3rd, three lascars in the crew of the liner *Macharda* were found to be suffering from a mild form of small-pox and were removed to the Isolation Hospital. The steamer was on a voyage direct from Calcutta to Dundee with a cargo of jute, and it appears probable that a similar case (or cases) which had not been notified was the original cause of the outbreak in the town. On April 5th sixty-six persons were known to have suffered from small-pox, and sixty were in hospital; the other six were discovered only after recovery, and were in a reception house. The medical officer of health has reported that up to this date 8,200 school children had been vaccinated at the request of their parents. In the diagnosis of cases, the test elaborated by Dr. M. H. Gordon, F.R.S., of London has been used with success. With the exception of four adults who had been vaccinated in infancy, all the cases of small-pox occurred among unvaccinated persons, chiefly children. A house-to-house visitation is being carried out in the infected area, which is confined to the east end of the city, and a special staff is engaged on vaccination work. Lymph sufficient for 16,000 persons has been issued, and centres for vaccination have been established. Arrangements are also being made for the vaccination of employees at works and of the inmates in institutions as well as children at the schools.

Difficulty is experienced in recognizing some of the cases on account of their extreme mildness, and also in differentiating cases from chicken-pox, which has now been made generally notifiable throughout Scotland. Vaccination with ordinary calf lymph appears to afford protection both against ordinary small-pox and this mild variety. The convener of the public health committee has stated that even if the outbreak were to come to an end immediately it would have cost the municipality at least £10,000, which represented 2d. in the £ on the rates.

INSTITUTIONS FOR MENTAL DEFECTIVES.

At the sixty-sixth annual meeting of the Royal Scottish National Institution for Mental Defectives at Larbert, Stirlingshire, the directors reported that it had been necessary to realize most of the investments in order to take advantage of the opportunity to acquire the Larbert estate, which was near the institution and eminently suitable for the colony which it was proposed to build and equip for 300 adult mental defectives. A further sum of £70,000 would be required within the next two years to complete the buildings. The institution at Larbert was the only voluntary one at present existing in Scotland for the care of all classes and all grades of juvenile mental defectives. It was essential for the welfare of many of these that accommodation should be provided where they could be kept on and trained as adults to do some useful work under safe conditions. This would be achieved by the new colony. The Edinburgh District Board of Control is taking steps for a new institution for the treatment of mental defectives at Gogarburn. This is intended to accommodate about 1,000 patients, and will be available for patients from the south-east of Scotland area. The first step in the development of the new institution was taken on March 28th, when the first sod of a new roadway in connexion with the institution was cut by Mr. William Elliot, chairman of the District Board of Control. A beginning is to be made next month with the building, which is the first part of the scheme, and which it is expected will be completed in about three years.

NEW EDINBURGH DENTAL HOSPITAL.

The annual meeting of the Edinburgh Dental Hospital and School was held on March 31st. Dr. William Guy, dean of the school, who was in the chair, said that in his opinion the institution did more than any other agency to prevent the incidence of disease among the Edinburgh public, and yet when it appealed to the generosity of that public for support it received in the course of twelve months contributions amounting to about £60. It was high time that the general public realized that what had been done during the past generation was due to self-denying work by members of the dental profession. Otherwise the hospital would not now have been in existence. The income derived from the students had been used to build up the extension and equipment of the present hospital, but it must get in the immediate future between £10,000 and £20,000 for the support of the new building. Bailie T. G. Nasmyth, M.D., in moving the adoption of the annual report, said that the past year had been one of great activity and progress; the hospital practice had been attended by 144 students, and nearly 26,000 dental operations had been performed during the course of 1926.

GLASGOW HOSPITAL FOR WOMEN.

At the fiftieth annual meeting of subscribers to the Glasgow Hospital for Women, on April 7th, the Earl of Home, K.T., who presided, traced the history of the hospital from its beginning in 1877 in a small house as a hospital for women and children; since 1888 it had confined its activities to the care of women, and it had now become one of the most important institutions in the city. It had had a struggling existence for a long time, but in recent years its financial position had become secure. Lord Home paid a warm tribute to the services of the matron and staff, and in the name of the directors and staff presented Dr. G. Scott MacGregor, the senior surgeon, who has been connected with the institution for the long period of thirty-four years, with a canteen of cutlery and a gold cigarette case.

PERTH ROYAL INFIRMARY.

The eighty-ninth annual report of the Perth County and City Royal Infirmary showed that the number of cases treated throughout the year in all the departments was 4,051, as compared with 3,752 in 1925. Lord Forteviot, who had already met the cost of building the new maternity ward, had signified his intention of giving also the medical equipment and instruments. The late Mrs. C. A. Murray of Taymount bequeathed £5,000 for the endowment of a ward in memory of her late husband.

PUBLIC HEALTH INSTITUTES IN LANARKSHIRE.

The Middle Ward district committee of the county of Lanark contemplates the provision of five public health institutes in its area. The first of these, on the site of the county housing scheme at Johnson Drive, Cambuslang, was opened last month. The building cost about £7,500, and is intended for the treatment of children up to 5 years of age, nursing and expectant mothers, tuberculosis, and general infectious diseases of the skin. The second public health institute was opened the following week at Station Road, Shotts; the cost of this building is about £4,000, part of which is met by a Government grant. Other similar institutes are to be established at Blantyre, Larkhall, and Bellshill.

CENTRAL MIDWIVES BOARD FOR SCOTLAND.

At a special meeting of the Central Midwives Board for Scotland for the hearing of penal cases, Dr. James Haig Ferguson in the chair, a certified midwife was cited to appear for failure to take and record the pulse and temperature of her patients, and for other breaches of the rules. Miss Barker, assistant inspector of midwives for Glasgow, was present in support of the charges. The board found the charges to be proved, and instructed the secretary to remove the name of the midwife from the roll and to cancel her certificate. At the same sitting another certified midwife was charged with being guilty of negligence, breaches of the rules, and that she had proved herself incapable of carrying out the same, and, further, with failure to intimate intention to practise as required by the Act. The board found the charges to be proved, and instructed the secretary to remove her name from the roll and to cancel her certification, and, further, to prohibit her from attending women in childbirth in any other capacity.

Ireland.

LOCAL AND PART-TIME MEDICAL REFEREES.

AT a recent meeting of the Tyrone Division of the British Medical Association, Dr. Thompson, who was in the chair, said that it had been called to consider the attitude to be adopted towards the proposal of the Northern Government to appoint part-time local medical referees to review the medical certificates for sickness benefit under the National Health Insurance Act. Such medical referees would be in competition for private practice with the doctors whose certificates they were appointed to review. The matter, he said, had been considered at a meeting in Belfast of the Ulster Branch council of the British Medical Association, when it was decided to call a meeting of the Branch to consider the question, which was of vital interest, not only to the medical profession, but also to the poor. Dr. Thompson strongly disapproved of the proposition as being opposed to the best interests of the doctors and their insured patients. He urged that if the principle was once admitted of permitting local doctors to review other local doctors' certificates, and this without any special remuneration to the latter, two of the chief rules guiding doctors in their relationship would go by the board. In the South of Ireland the difficulty was solved by the appointment by the Government of three whole-time medical referees, and if three were enough for the South of Ireland, two referees should be enough for the Ulster six counties. A long discussion took place. Dr. Lagan

mentioned a case where a referee examined a delicate patient with heart disease and certified him fit for work. Dr. Lagan, who had been attending the case for weeks, had a different opinion, and this patient was later examined in his presence by another medical referee, and Dr. Lagan's opinion was confirmed—the patient being certified unfit to work. Dr. McAllister thought that the appointment of local referees was a good idea, but that efforts should be made to allow no local referee to come within ten miles of another medical practitioner who was also a medical certifier, to review his cases. Dr. Patrick proposed that the Tyrone doctors should vote against the appointment of local and part-time medical referees, and Dr. Lyle seconded. A motion to the opposite effect was proposed by Dr. McAllister, and seconded by Dr. Cunningham, but this was rejected by fourteen votes to three. The original motion was then put and carried by the same majority. A deputation, including the chairmen of the Ulster Divisions of the Association, was appointed to wait upon the Minister of Labour and to protest strongly against the appointment of part-time medical referees, as any arrangement by which local medical practitioners would review the patients of their colleagues was professionally objectionable, and unfair to the insured.

Medical Inspection of School Children.

At a recent meeting of the Dublin Borough Commissioners Dr. Dwyer (City Commissioner) submitted a report recommending a preliminary scheme for the inspection and treatment of school children. The medical officer of health (Dr. Russell) had previously recommended the appointment of two assistant medical officers of health to act as school medical officer and assistant school medical officer respectively, together with two nurses. Dr. Dwyer recommended the immediate appointment of two permanent whole-time assistant medical officers of health, one to act as school medical officer at a salary of £700-£40-£900, the other as assistant school medical officer at a scale of £500-£20-£700, and two nurses at a salary of £182 10s. each. Dr. Russell advised that the school medical service might with advantage be co-ordinated with the working of the maternity and child welfare scheme, with the object of securing a uniform system of treatment. This would result in the compilation of a complete record for each child from the date of birth to the end of school life. Dr. Dwyer fully endorsed this view, and recommended that the school medical officers be also required to undertake medical work in connexion with the child welfare scheme, and that their salaries be charged equally against the two services. The report was adopted.

England and Wales.

Royal Westminster Ophthalmic Hospital.

In connexion with the rebuilding scheme of the Royal Westminster Ophthalmic Hospital a reception was held on April 6th in the Westminster City Hall. The Mayor of Westminster, Councillor Bucknill, who opened the proceedings, referred to the founding of the hospital in 1816 by Mr. Guthrie, an army surgeon, in his own house in Berkeley Square, whence it was later moved to King William Street. Like the other notable charities in the city of Westminster, the work of the hospital—curative, educational, and scientific—was not confined within the boundaries of the city, but was of benefit to the whole world. In particular the valuable ophthalmic and aural work now done among school children was instrumental in reducing the number of street accidents, due so often to defective sight and hearing. The Earl of Desart, chairman of the rebuilding fund, said that the object of this meeting was to lay before the public the first special appeal launched by the Royal Westminster Ophthalmic Hospital for thirty years. The rebuilding of the hospital was forced upon them; the present building was no longer adequate for their work. A very good site had been found, and the present site favourably disposed of. Various generous donations had already produced £18,000, but the sum of £60,000 was still required. The new building would contain beds for paying patients, as well as increased accommodation for nurses and students. He appealed to those present to help them, not only with subscriptions, but by giving the appeal all the publicity in their power. Mr. H. Percy Adams, the architect of the new building, plans of which were exhibited in the hall, described some of the special features of the new hospital. The great aim was to make the hospital as light and cheerful-looking as possible. Mr. W. H. Macmullen, surgeon to the hospital, opened an address on ophthalmic surgery by a reference to Lord Lister, whose discoveries had been of such value to all surgery. Ophthalmic surgeons, however, were often debarred from the use of ordinary chemical antiseptics, which would injure the surface of the eye. A bacteriological examination, therefore, was made before any operation. The most common ophthalmic operation was the removal of cataract. Very erroneous ideas existed as to this condition, which, contrary to lay opinion, could usually be treated quite successfully by surgical means. A much more difficult condition was glaucoma; Mr. Macmullen described several methods of operating on this disease, and also various ways of fixing artificial eyes. Sir Richard Cruise then demonstrated some of the instruments used in the routine examination carried out daily in the hospital, including the giant magnet used for removing foreign bodies from the eyes, the ophthalmoscope, whereby the whole cavity of the eye could be illumined, and the slit-lamp. He pointed out that much interesting and sometimes surprising information as to a patient's condition was derived from an ophthalmological examination.

Royal Victoria and West Hants Hospital, Bournemouth.

At the annual meeting of the Royal Victoria and West Hants Hospital, on March 30th, it was stated that out of 18,372 patients treated during 1926 nearly 4,500 had come from outside the boundaries of Bournemouth. Further extension of the hospital was required in several directions; the provision of a second operating theatre had become urgently necessary in view of the large increase in operations now being performed, and several additional one-bed and two-bed wards were needed for special cases, which could not be satisfactorily accommodated in larger wards. The ultra-violet light and *x*-ray departments were quite inadequate for the great amount of treatment that was now being given, and the work of the dental department was badly handicapped by being carried on in temporary quarters. The chairman of the board of management announced that the question of further extension of the hospital was being carefully considered by a special committee, and that sketch plans were being prepared. Though there had been a small deficit of £35 on the annual turnover of £34,000 during 1926, the treasurer anticipated that satisfactory improvement in this respect was probable in the coming years, provided that the support of the outlying districts could be obtained, in view of the fact that so many of the patients of the hospital resided outside the Bournemouth area. The cost of maintenance of patients had decreased by about 12 per cent., the only increase in any direction being attributable to the industrial dispute.

Health of School Children in Glossop.

In his annual report as school medical officer for 1926, Dr. E. H. Marcus Milligan describes a method he adopted successfully to deal with the serious outbreak of diphtheria in Glossop during last summer and autumn. Out of the total 65 cases, 45 occurred in school children, and three schools were mainly affected, the infection being almost entirely limited to one side of the borough. All class contacts in these three schools were examined and some carriers were found, including two children from a farm which supplied milk to the affected area, and two children of one of the caretakers. The contacts were repeatedly swabbed, the carriers isolated, and, in addition, many children were treated with prophylactic serum without any special ill effects. Dr. Milligan supports the suggestion of Surgeon Commander F. Dudley that diphtheria may be effectively combated by immunizing large numbers of those likely to be infected, the bacillus losing its virulence by transmission through immunized carriers. He has also for

some time taken special interest in goitre, and now reports that this disease is milder and less prevalent among the children in Glossop since the adoption of systematic examination for thyroid enlargement and their prolonged treatment by iodostarin or by tablets containing 1/10 grain of iodine. Improvement was slow under this treatment, and Dr. Milligan thinks that the dose of iodine might safely be increased or augmented by the use of thyroid extract. He notes that goitrous children were frequently found to have nasal catarrhs, sore throats, or other septic infections. The examination of 1,000 children for rheumatic nodules, cardiac defects, and diseased conditions of the ear, nose, and throat showed that rheumatic stigmata were present in at least 10 per cent. of them at all ages.

Correspondence.

CARCINOMA OF THE HEART.

SIR,—Dr. Thomas Lindsay's report of a case of "Carcinoma of the heart" (BRITISH MEDICAL JOURNAL, February 19th, p. 325) in an old woman who had a nodule of squamous-celled carcinoma in the interior of the left ventricle is very interesting. It is quite obvious, however, that primary squamous-celled carcinoma is not the right term to apply. A squamous-celled carcinoma originally must come from a squamous-celled surface, and whether the primary growth has been found or overlooked does not matter very much—it must be somewhere. There is not the slightest doubt that emboli from primary carcinomatous growths become sown throughout the body, but the delicate cells will not grow in every locality; in certain organs, such as the liver, they grow readily, while in others, like the muscles, they seldom will. The reason for this is not known. One of the curious facts in connexion with it, however, is that squamous carcinoma of the tongue will very often give rise to secondary growths in the heart. This is not generally known, but struck me very forcibly in looking up the literature lately. Secondary growths from carcinoma of the tongue are seldom mentioned, since autopsies on these patients are not common when death takes place at home, and usually only early cases die in hospitals. In some institutions, however, autopsies may be met with and the figures can be obtained. Thus, in the *post-mortem* examinations of the Middlesex Hospital the heart was found affected on two occasions, the liver on eight, and the lungs and pleura on eleven, while in the literature on the subject frequent mention is made of secondary nodules in the heart. Thus, almost offhand, I can mention the following instances: Féré[1] records three nodules, one in the wall of the left, and two in the wall of the right ventricle, in a man aged 64. Godlee[2] notes an instance in a man aged 56, and Weil[3] and Jeanne[4] each record cases.

One can only wonder if the tongue in Dr. Lindsay's case was carefully examined. The commencing degeneration mentioned in the tumour is often seen in secondary growths from the tongue.—I am, etc.,

London, W.1, April 5th. DUNCAN C. L. FITZWILLIAMS.

THE SURGERY OF GASTRIC AND DUODENAL ULCERS.

SIR,—In his letter in the issue of the BRITISH MEDICAL JOURNAL of April 2nd (p. 643) Mr. E. R. Flint takes exception to my statement that, of 1,275 cases of gastric and duodenal ulcers admitted to the surgical wards of the London Hospital in the three years 1923-25, 660 were gastric and 615 were duodenal, and implies somewhat directly that the surgeons at the London Hospital are unable to distinguish between a gastric and a duodenal ulcer.

I think that his implication is probably entirely correct, and that the disability is shared by other surgeons if they would only admit it. It is perfectly true that, as he says, the white line and the pyloric vein define with considerable accuracy the anatomical position of the exit of the pylorus, but in a large number of cases there is no means of judging the extent of an ulcer, or even its precise situation from the external appearances of the pylorus and the duodenum. There will therefore be a large proportion of cases in which the question of whether the pylorus is or is not involved remains a matter of some doubt, and as it is the custom of some surgeons to classify as gastric all cases where they suspect the pylorus to be involved, there is room for a very wide variation in statistics.

Thus Walton states that among his own cases the numbers of uncomplicated lesser curve and duodenal ulcers are exactly equal, whilst Eggleston,[1] in a series of 500 cases, allots 415 to the duodenum and 85 to the stomach. W. J. Mayo has in various papers given an incidence of duodenal ulcers at figures varying from 60 to 73 per cent. Pannett places an incidence of 57 as the generally accepted figure.

The *post-mortem* records at the London Hospital, which surely cannot lie, give 68 gastric ulcers and 55 duodenal over a certain period, but this cannot, of course, be accepted in the same category as operation statistics, as the question of mortality enters into the calculation.

In the last 100 cases on which I have myself personally operated I consider that 54 were gastric ulcers and 46 duodenal. When I was in charge of the surgical unit at the London Hospital we paid special attention to this very point, and the cases operated upon by myself and my assistants were distributed as follows: 47 were gastric ulcers, 53 duodenal, and 17 pyloric.

The question whether in any specific case an ulcer should be described as duodenal or pyloric is often exceedingly difficult to answer, as the few statistics I have quoted are sufficient to indicate. The question can only be settled, if it can be settled at all, by a larger series of gastro-duodenectomies than has yet been published.—I am, etc.,

London, W.1, April 9th. H. S. SOUTTAR.

THE NUMBERS OF THE PROFESSION.

SIR,—The glut in women doctors still continues. A single advertisement inserted in the BRITISH MEDICAL JOURNAL produced forty-eight women applicants for two posts—namely, those of senior and junior resident medical officers to a children's hospital in the North of England, the salaries being £120 and £100. Recently a like advertisement brought forth only twelve male candidates for the post of house-physician at our general hospital.

None of the former applicants gave her age as over 29. Thirty-eight of the candidates had held previous hospital appointments lasting from two to fifty months. Many had gone from post to post. All the applicants were university graduates except one, who held the conjoint diploma of the London colleges.

Twenty-three had English qualifications, 21 Scottish, and 4 Irish (one from Northern Ireland and 3 from the Free State). The 23 English women had degrees from: Oxford 1, Durham 4, London 10 (University 9, Conjoint Colleges 1), Birmingham 1, Liverpool 3, and Manchester 4. The 21 Scottish graduates were: 3 from St. Andrews, 6 from Edinburgh, 8 from Glasgow, and 4 from Aberdeen. The Irish graduates were: 1 from Belfast and 3 from Dublin.

The large number of Scottish applicants was out of proportion to the numbers qualifying across the border. Of over 2,000 new names added to the *Medical Register* last year from Great Britain, two-thirds were from England and one-third from Scotland, although Scotland has only one-seventh the population of England.

As regards the excessive number of graduates (men and women) entering the profession in face of the falling sickness rate—the *Medical Register* already contains over 53,000 names—it is said that out of every three qualifying in Ireland two must emigrate; the proportion must be higher from Scotland. Abernethy, at the first meeting of his annual class of medical students, once exclaimed, "Good

[1] Féré: *Bull. de la Soc. de Anat.*, 1880, lv, 512.
[2] Godlee: *Trans. Path. Soc.*, 1881, xxxii, 27.
[3] Weil: *Gaz. hebd. de méd.*, 1897, 570.
[4] Jeanne: *Gaz. hebd. de méd.*, 1897, 737.

[1] *Journ. Amer. Med. Assoc.*, December 4th, 1920, p. 1542.

God, gentlemen, what will become of you all?" We may say the same to-day.

Some of the best American universities (Pennsylvania, Baltimore, etc) restrict their medical students to a fixed number which can be adequately taught the practical side of their work, some of them admitting less than a quarter of the applicants, and selecting only the best after inquiry and examination.—I am, etc.,

Sunderland, April 7th. W. ROBINSON.

CERTIFICATION OF THE INSANE.

SIR,—Your admirable leader on the Hume-Spry case leaves an important point undeveloped which nevertheless adds to the danger to the general practitioner in certifying mental cases. I refer to a statement emphasized by Sir James Barr at the annual meeting of the Royal Liverpool Infirmary on March 31st last. "The medical man knew that an individual with money could sue him and always command expert evidence that he was sane." This is surely a serious accusation.

In the case under consideration the judge and jury made short shrift of such evidence—evidence be it remembered given by "experts" who did not see the patient at the time he was certified. In a later case (de Freville *v.* Dill) the following quotations from the *Times* report speak for themselves:

Mr. Maitland: If a doctor has left any stone unturned, is it proper to give a certificate of insanity?—No.
Mr. Singleton: Is not that for the jury?
Mr. Justice Avory: I think the answer means that no doctor should ever give a certificate of insanity unless he has consulted Dr. Hyslop.

And further, from the *Times* report of Dr. Risien Russell's cross-examination:

Mr. Singleton: Do you say, because Dr. Dill said that she refused food, that he wilfully made false statements to strengthen a medical certificate?
Dr. Russell: He made the statement to strengthen the certificate. He either did it wilfully, or he is very ignorant of what is required in a medical certificate. He himself says that she had a cup of tea.
Mr. Justice Avory: May not a reasonable man think that a cup of tea is not food?
Dr. Russell: Not a medical man, my lord.
Mr. Justice Avory: I said a reasonable man. (Laughter.)

I think we may all join in the laughter.—I am, etc.,

F. E. H. DAUNT, L.R.C.P.I., L.R.C.S.E.

London, S.W.9, April 5th.

"BIRTH CONTROL."

SIR,—In the letter (April 9th, p. 701) combating my contention that the world's food supply is increased so slowly that only a very small proportion of couples in the world can get really sufficient food for themselves and more than three children, Dr. S. Vere Pearson quotes from a League of Nations publication that between 1913 and 1925 the world's output of foodstuffs was increased by 13 per cent. This important estimate that the world's food supply is only being increased at a rate of about 1 per cent. per annum precisely accords with my contention. It indicates that if all are to be adequately fed the world's inhabitants cannot have a birth rate of much more than 20 per 1,000, and this implies that the great majority of couples cannot have more than three children.—I am, etc.,

London, S.W.7, April 9th. B. DUNLOP.

Obituary.

Dr. JAMES HARRIS GARCIA WHITEFORD died suddenly on March 26th at his residence at Greenock. Dr. Whiteford, who for a considerable time had been medical officer of health to the burgh of Greenock and physician to the Greenock Infirmary and Fever Hospital, was a son of the late Dr. James Whiteford of Greenock, where he was born in 1865. He graduated B.A. at Cambridge in 1886, and M.B., C.M. at Edinburgh in 1891, and took the diploma in public health at Cambridge in 1900. At one time he served on the town council; he took a great interest in Freemasonry and in the local Territorial Force, attaining the rank of lieutenant-colonel R.A.M.C. Dr. Whiteford is survived by his wife and two daughters, one of whom is a medical practitioner in Greenock.

Dr. WILLIAM HAMMOND HODGSON, whose death is recorded at the age of 45 years, was born at Poulton, the son of Alderman William Hodgson, J.P. He was educated at the London Hospital and the University of Cambridge, took the diploma of the English Conjoint Board in 1907, and graduated B.A.Camb. in 1902, and M.B., B.Ch. in 1911. He served as house-physician, senior clinical assistant to the ear, nose, and throat department, and resident anaesthetist to the London Hospital, and after working in London for a time removed to Blackpool, where he carried on a successful practice. He joined the Victoria Hospital in 1914, to which he was surgeon at the time of his death, and in 1921 was elected the representative of the medical board on the board of management. During the war he served for twelve months in Mesopotamia, and subsequently took charge of the Station Road (South Shore) Auxiliary Hospital, Blackpool. Dr. Hodgson was a member of the Blackpool Division of the British Medical Association. He is survived by his widow and a young daughter.

Dr. EDWARD JOHN JOSEPH QUIRK, M.B.E., who died on March 24th, received his medical education at Charing Cross Hospital, where he obtained the diplomas M.R.C.S., L.R.C.P. in 1908. After serving as house-surgeon and house-physician to Charing Cross Hospital, and house-anaesthetist to the Royal Dental Hospital, he was appointed to the West African Medical Service in 1912. In the late war he received a commission as captain and was attached to the West African Field Force from 1914 to 1916, and to the Nyasaland Field Force from 1917 to 1918. He was mentioned in dispatches and awarded the M.B.E. A colleague writes: By his death the staff has lost one of its most promising officers. A sound physician and an expert anaesthetist, Dr. Quirk was also very efficient at administrative work, so that he was marked out for early and high advancement in the service. As regards his personal character, he was kindness and generosity personified. These qualities, added to his never-failing fund of wit and tact, endeared him to all.

Dr. JOHN THOMAS CROWLEY, who died on March 18th, at the age of 28, received his medical education at University College, Dublin, where he graduated M.B., B.Ch., B.A.O. in 1921. He was then appointed resident surgeon to the Mater Misericordiae Hospital in Dublin, and in 1922 obtained a commission in the Irish Free State Army. He held the position of command medical officer in Cork until April, 1924, when he was promoted to the rank of commandant on the inspection staff. Ill health compelled him subsequently to resign his commission.

FREDERICK BELDING POWER, Ph.D., LL.D., who died on March 30th at Washington, was born in 1853 at Hudson, New York, and began life as a practical pharmacist in Chicago and Philadelphia. In 1876 he went to study at the University of Strasbourg, where he took his degree in 1880, after acting as assistant to Professor Flueckiger. Returning to America in 1881, he became in turn professor of analytical chemistry at the Philadelphia College of Pharmacy, and of pharmaceutical chemistry and materia medica at the University of Wisconsin. In 1896, at the invitation of Mr. Henry S. Wellcome, Dr. Power came to England as first director of the Wellcome Chemical Research Laboratories. Under his direction 168 scientific papers from these laboratories were communicated to learned societies, and during this period Dr. Power gained a wide reputation as a research chemist, particularly in the field of plant chemistry. One of his most important researches was an investigation of the constituents of chaulmoogra and hydnocarpus seeds. In 1914 Dr. Power returned to America as director of the Phytochemical Laboratory of the Bureau of Chemistry at Washington, a post he held

until his death. In 1908 the University of Wisconsin conferred on him the honorary degree of Doctor of Laws, and in 1913 he was awarded the Hanbury gold medal. In 1921 Mr. Wellcome presented him with a commemorative gold medal. Dr. Power was an honorary member of many scientific societies and institutions, a former vice-president of the Society of Chemical Industry, and served on the committee of the United States Pharmacopoeia; in 1920 he was elected vice-president of the United States Convention.

The following well known foreign medical men have recently died: Dr. ANTONIO CARDARELLI, professor of clinical medicine at Naples, aged 86; Professor PERTHES, director of the Tübingen Surgical Clinic; Dr. JEANNE, professor of clinical surgery at the medical school at Rouen; Dr. ZOEGE VON MANTEUFFEL, extraordinary professor of surgery at Dorpat, aged 68; Professor RIELÄNDER, a Marburg gynaecologist, aged 48; Professor SPIEGEL, who discovered the alkaloid yohimbin; Dr. GIOVANNI D'ABUNDO, professor of clinical neurology at the University of Catania; Dr. J. SINGER, formerly professor of internal medicine at Prague, aged 72; Professor A. VALENTA EDLER VON MARCHTURN, gynaecologist at Laibach, aged 57; Dr. PAUL CORNET, general secretary of *Paris médicale;* Dr. PAUL RIBIERRE, a Paris cardiologist, aged 52; Dr. LANGLET, national associate of the Académie de Médecine, and formerly mayor of Rheims; Professor J. CURTILLET, dean of the faculty of medicine of Algiers, aged 64; Professor GAVELLO, director of the oto-rhino-laryngological clinic at Turin; and Dr. LÉONCE PIERRE MANOUVRIER, director of the laboratory at the Collège de France and professor at the École d'Anthropologie.

The Services.

Brevet Colonel William Westropp White, C.B., C.M.G., Bengal Medical Service (ret.), died at Cove, Bampton, Devon, on March 21st, aged 64. He was born on June 10th, 1862, the eldest son of the late John Carpenter White of Cork, and was educated at Queen's College, Cork; he graduated as M.D., M.Ch., and M.A.O., of the Royal University, Ireland, in 1887. He entered the I.M.S. as surgeon on October 1st, 1887; he became lieutenant-colonel after twenty years' service, and received a brevet colonelcy in 1915. He retired on August 2nd, 1921. He had a long record of war service—North-West Frontier, Hazara campaign of 1891, medal with clasp; Chitral, 1895, relief of Chitral, medal with clasp; Tirah, 1897-98, operations on the Samana range and in the Kurram Valley, and in Buner, two clasps; China, 1900, relief of Pekin, mentioned in dispatches in *London Gazette* of May 14th, 1901, medal with clasp. He also served throughout the recent war, in France, Mesopotamia, and Palestine successively, was four times mentioned in dispatches (1915, 1916, 1918, and 1919), and received the C.B. on January 1st, 1916, and the C.M.G. on June 3rd, 1919.

Lieut.-Colonel David MacDonald Davidson, C.I.E., Bengal Medical Service (ret.), died at Lahore on March 13th, a few days before his sixty-second birthday. He was born at Antananarivo, in Madagascar, and was educated at Aberdeen, where he graduated M.B. and C.M. with honours, and gained the Murray scholarship in 1897; he proceeded M.D. in 1896, and took the D.P.H. of the Glasgow Colleges in 1897. He entered the I.M.S. as surgeon in October, 1887, became lieutenant-colonel after twenty years' service, and retired in October, 1923. After two years' military duty he entered civil employment in the Punjab, where he was for many years civil surgeon, first at Delhi and afterwards at Lahore, and in December, 1914, was appointed professor of midwifery in the Lahore Medical College, in addition to his duties as civil surgeon. On his retirement he came home, but after a short period in Europe returned to India and settled at Lahore, where he served as a municipal commissioner. He received the C.I.E. in January, 1921. He was the author of the article on dysentery in his father's well known work, Davidson's *Hygiene and Diseases of Warm Climates*, published in 1893.

Major Roger Durrant Willcocks, Indian Medical Service (ret.), died on January 9th, aged 50. He was educated at Liverpool, where he graduated M.B. and Ch.B. of the Victoria University in 1901, and entered the I.M.S. as lieutenant in January, 1902. He attained the rank of major on July 29th, 1913, and retired on October 12th, 1920. He served in the recent war.

Major Sorab Dinshaw Billimoria, Indian Medical Service, died on February 2nd, aged 41. He was born in 1885, and was educated at the Grant Medical College, Bombay, where he obtained the diploma of L.M.S. in 1910. He joined the I.M.S. as a temporary lieutenant on January 4th, 1915, and received a permanent commission, ranking from his original date of entry, in November, 1920. He served throughout the great war, in Egypt in 1915-16, and in Mesopotamia in 1918, and was mentioned in dispatches on August 15th, 1917.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

ON April 7th the Parliamentary Medical Committee visited the National Research Institute, Hampstead, and the Mill Hill experimental farm. The Committee were very favourably impressed by the organization at both. All departments were visited, special attention being paid to the research into rickets and to the section of applied physiology. At Mill Hill the Committee saw the arrangements for the investigation of distemper in dogs and of Johne's paratuberculous disease in cattle, and also the ultra-microscopic work of Dr. Gye and Mr. Barnard, for which a special building has now been provided.

The Budget.

Mr. Churchill presented in the House of Commons, on April 11th, the Budget for 1927-28. This showed an estimated expenditure for the year of £833,390,000, including a provision of £65,000,000 for Sinking Fund, and an estimated revenue of £796,850,000 on the basis of existing taxation. Mr. Churchill proposed to increase this revenue to £834,830,000. An additional £14,800,000 is to be obtained by collecting income tax under Schedule A for 1928 in one instalment next January, and £12,000,000 will be transferred from the Road Fund reserve to general account. New duties are proposed on imported tableware, on imported motor tyres, and on British wines, and the duties on "fortified" foreign wines are increased. No change is made in the rates of income tax nor in the motor car duties, but the Chancellor announced important changes in income tax administration to take effect next year. Taxation under Schedule E (salaries) will be transferred to the basis of the previous year; supertax and income tax are to be harmonized into a single graduated tax on income, and taxpayers will make a single annual return for all purposes of the total income for the previous year. Mr. Churchill further announced that the Government had decided to abolish the Ministry of Transport, Mines Department, and Department of Overseas Trade, and to slow up the rate of entry for the civil service.

At the close of the day's sitting a resolution giving the force of law to the duty on "patent" medicines was carried by the House. The debate on the Budget duty was resumed on April 12th and 13th.

Landlord and Tenants Bill (*No. 2*).

On April 7th the Home Secretary, Sir William Joynson-Hicks, moved the second reading of the Landlord and Tenants Bill (No. 2), which would entitle the tenants of leasehold business premises to compensation for goodwill and for improvements made after the passing of the bill, or alternatively to renewals of their leases. The bill also proposes to set up a tribunal of arbitrators to deal with questions in dispute between landlords and tenants. Mr. Dalton, moving an amendment on behalf of the Labour party, regretted that the bill was limited to business premises. A large number of doctors, dentists, and other professional people were liable to suffer from confiscation by their landlords, when their leases fell in, of the goodwill which they had added to their practices. In the poorer parts of London doctors had built up considerable practices. When their leases fell in they must be turned on the streets or in the alternative pay a grossly excessive rent to the landlords who were aware of the amount of goodwill that had been created around these practices. Mr. MacLaren, seconding the amendment, said it was laid down in law that professional men had their goodwill assessable for Probate Duty and other purposes. Mr. Ellis Davies said the solicitor as a rule was not entitled to goodwill in respect of the premises which he occupied, but the doctor's connexion was much more personal and therefore the doctor ought to be included within the scope of the bill. Dr. Graham Little urged the extension of the provisions of the bill to the professional premises of doctors. Two classes of doctors were concerned. The first were the consultants who were resident in London. Under the present law a surgeon would take a house for a short period, would establish a great reputation, and at the end of some years would be faced with the necessity of removal or of renewing the lease. The landlord understood it was a damaging thing for that man to remove from the neighbourhood, and the lease would immediately go up to an extortionate value. Unless the bill applied to professional premises it would make leases more difficult to obtain. The inland revenue regarded a doctor's house as business premises. The general medical practitioner would be, perhaps, more hardly hit. He read a resolution by a meeting of general practitioners urging the Government to make provision in the bill for the security of tenure of practitioners who had been in many instances compelled to build on leasehold premises to comply with the requirements of the National Health Insurance Act. The Solicitor-General, Sir Thomas Inskip, said Dr. Little's suggestion that doctors' goodwill should be made the subject of compensation was purely a question for the Committee stage. The Government had no desire to reject reasonable proposals for making the bill more effective. The second reading of the bill was carried by 240 to 83.

Shop Hours.

At the first sitting of the Committee which has been appointed to inquire into the working of the Shops Acts of 1920 and 1921 and to consider whether they should be made permanent, and, if so, whether with or without modifications, evidence was given by Mr. A. Larking, secretary of the Early Closing Association. He recalled the history of the early closing movement, and said that the habit of late shopping by the public had entailed suffering on the young people behind the counters. All over the country shops were open from 7.30 or 8 in the morning to 10, and midnight on Saturday, and the hours of assistants ranged from eighty to one hundred a week. The only safeguard was for all shops to be closed at a prescribed time, whether employing shop assistants or not. An additional reason for continuing the Shops Act of 1920 was its value in connexion with the Summer Time Act, which afforded time for outdoor recreation every evening of the week, instead of, as previously, only on the half-holiday.

Replying to Miss Margaret Irwin, a member of the Committee, the witness said that he had medical evidence that long hours were injurious to the health of women and men employed in shops.

The Chairman (Sir W. W. Mackenzie) said the Committee would like medical evidence since 1912. The witness said that since 1912 the number of hours worked had been much reduced, and the half-holiday and the Shop Seats Act considerably lessened the hardships of shop assistants.

The Chairman said if the evidence showed the injurious effect of long hours before the Shops Acts were passed it would not be very material. The witness replied that the hours to-day were not sufficiently long to warrant medical evidence against long hours. He could bring medical evidence that if the Shops Act of 1920 were discontinued, and things went back to the old state of affairs, keeping open to 9 or 10 at night, the effect on young people, especially girls, would be most injurious.

Replying to Miss Irwin, the witness said that work in shops at any time with artificial light was far more exacting than working in ordinary light. In some shops the sanitary conditions left a good deal to be desired.

The Committee adjourned till Thursday.

Opium and Drug Addiction.—Mr. G. Locker-Lampson denied that the League of Nations Advisory Committee on Opium and Drug Addiction had stated that in Europe 700,000 men and women were engaged in the illicit sale of morphine, heroin, and cocaine, a good percentage being employed in Great Britain. The statement was without foundation and had not been made by any responsible body. Mr. Amery, replying to Mr. Gardner on April 11th, said that opium consumers were not registered in the Straits Settlements or Federated Malay States, though the Governments of those territories had put into operation measures designed to lead up to registration of consumers when possible. The Government of North Borneo had recently introduced an experimental and tentative system of registration of consumers of opium.

Cholera in India.—On April 11th Earl Winterton informed Mr. Short that the epidemic of cholera in the Bombay Presidency appeared to have started in the Dharwar district in February last and had spread to three other districts. Figures relating to these outbreaks had not yet been received. The measures taken to arrest the spread of the disease were a matter for which the local Government was responsible, but the Secretary of State had no reason to suppose that all possible steps to this end were not being taken. The Belgaum district was freshly infected on March 19th, and on March 26th the disease was spreading in that district.

Infantile Mortality in Palestine.—Mr. Amery has stated that the infant mortality rate per 1,000 births in Palestine was 184.83 in 1924, 188.64 in 1925, and 163.15 in 1926. Twenty-nine non-Government infant welfare centres had been established in Palestine, to many of which the Government had given financial assistance. In addition, two Government centres had been established where training by experienced British nursing sisters was given to women who wished to take up infant welfare work. A training centre for midwives had been established, at which forty-three women had already qualified, and a scheme was on foot for establishing nursing clinics in a number of villages.

Poisons and Pharmacy Acts.—On April 11th Captain King told Dr. Fremantle that traders engaged in the sale of poisons, both by wholesale and retail, were represented on the committee which was investigating the working of the Poisons and Pharmacy Acts. He was unable to say when the committee's report might be expected. Lady Astor asked whether whisky was classed as a poison for the purpose of this inquiry. No answer was returned.

Notes in Brief.

The Home Secretary is about to make a scheme under the Workmen's Compensation Act which will embrace all the metal grinding industries, including the edge-tool trade.

The Ministry of Labour estimates that on March 21st last 10,702,000 insured persons were employed in Great Britain, as against 9,677,000 in July, 1922.

The Minister of Health is of opinion that the re-issue in casual wards of unwashed night clothing does not satisfy the existing regulations.

Material will be contributed by the Ministry of Health to the next Health Yearbook issued by the League of Nations.

The Consultative Council of the Ministry of Health last met on December 7th, 1921, and the Minister cannot say whether there is hope of its meeting again.

Medico-Legal.

A CORONER'S INQUEST.

ON March 24th a meeting of the Southall Medical Society was held at the Manor House to discuss the matter of the inquest held at Westminster on March 15th last by the coroner, Mr. S. Ingleby Oddie, relating to the death of Lily Leah Wise, and circumstances arising therefrom. The meeting was called because of the strong feeling that an injustice had been done, and that a question arises affecting the medical profession generally. Dr. J. Davenport Windle presided, and all the members were present—namely, Drs. Hart, Wynn-Werninck, Hutchison, Brook, McKenna, and Seccombe.

The report of the proceedings at the inquest which appeared in the *West Middlesex Gazette* of March 19th was laid on the table. The coroner, in returning a verdict of accidental death, said that it was an unfortunate case of a young married woman losing her first child. In view of the difficulties the doctor had to contend with some injury might easily be received by the infant, but the abrasion on the scalp became infected and the infant died of pyaemia. The doctor should have seen that the abrasion was bathed with antiseptics and kept clean. The coroner added a rider regretting that the doctor had not supervised the keeping clean of the abrasion by the nurse or kept it clean himself. The chairman said that the remarks of the coroner, especially in the rider to the verdict, contained an unjustifiable reflection on the professional skill of Dr. McKenna. Professional witnesses had been unable to say whether the infective process originated in the abrasion or was conveyed by contagion from the mother. Dr. Weir, the pathologist, although of opinion that the origin of the condition was the wound on the head, properly admitted the possibility of infection from the mother. The chairman pointed out other possible sources of infection, including infection from the cord (sloughing of the cord), a common cause, and infection from the nurse. A member pointed out that infection was prone to occur in the case of any child whose weight at birth was much below the normal, due to prematurity or some hereditary cause. He asked why the nurse was not called at the inquest, and, as the question of the doctor's conduct had arisen, why there was no jury. Though it might be the coroner's duty to censure where the facts were incontrovertible, it was his duty, the speaker considered, to determine the cause of the death, and this he had failed to do. He had formulated an opinion and evolved out of it a reflection on a medical practitioner. A motion was unanimously adopted to send a copy of the minutes of the meeting, together with the local newspaper, to the British Medical Association and the Medical Defence Union.

Universities and Colleges.

UNIVERSITY OF OXFORD.

AT a congregation held on April 9th the following medical degrees were conferred:

D.M.—A. Kendrew.
B.M.—C. W. Mackenzie, Grace Batten.

UNIVERSITY OF LONDON.

THE following have been recognized as teachers of the University in the subjects and at the institutions indicated:

St. Bartholomew's Hospital Medical College.—Mr. Reginald Hilton (physiology).
Guy's Hospital Medical School.—Dr. William W. Jameson (hygiene).
Middlesex Hospital Medical School.—Mr. Stephen L. Baker (pathology—morbid anatomy and histology); Dr. Davis E. Bedford (medicine); Dr. Samson Wright (physiology).
London School of Medicine for Women.—Sir Bernard H. Spilsbury (forensic medicine).
St. Mary's Hospital Medical School.—Mr. Gerald R. Lynch (pathological chemistry).
University College.—Mr. Albert Hemingway, temporary (physiology).

Dr. Hamilton Hartridge has been admitted to the Faculties of Medicine and Science as from September 1st, 1927.

Sir Holburt Waring, M.S., has been appointed a governor of the Imperial College of Science and Technology.

Mr. V. Warren Low has been reappointed the representative of the Royal College of Surgeons of England on the Senate, and Lord Dawson of Penn and Mr. H. L. Eason have both been reappointed as the representatives of the Faculty of Medicine.

Applications for the Chair of Anatomy tenable at King's College (salary £1,000 a year) must be received not later than the first post on April 21st by the Academic Registrar, from whom further particulars may be obtained.

Three lectures with lantern illustrations on sensation and the sensory pathway will be given on May 3rd, 4th, and 6th, at 4.30 p.m., by Professor J. S. B. Stopford at University College.

A course of four lectures with lantern illustrations on inflammation and infection will be given by Professor E. H. Kettle at Guy's Hospital Medical School on May 20th, 27th, 31st, and June 3rd, at 5.30 p.m.

Professor John Fraser will give a course of three lectures with lantern illustrations on some surgical problems at the Middlesex Hospital Medical School on May 16th, 17th, and 18th, at 5 p.m.

UNIVERSITY OF GLASGOW.

THE following candidates have been approved at the examination indicated:

FINAL M.B., CH.B.—W. Abdurahman, Margaret K. M. Alexander, H. Black, A. Blair, G. F. Cables, A. Campbell, J. Campbell, Margaret C. Campbell, Colomba C. Capaldi, H. Dickie, J. Downes, D. J. Ferguson, J. S. Ferguson, J. A. Fleming, H. W. O. Frew, J. P. Galloway, T. Gibson, Mary L. Gilchrist, Marjorie Gillespie, W. H. Graham, W. F. Greer, B. M. Hegarty, J. Hepburn, J. Hill, *F. T. Land, H. V. Lavelle, J. L. McColm, E. C. Macdonald, Isabel M. Macdonald, C. J. McGhee, I. S. McGregor, A. A. McMillan, D. R. McPherson, A. Matchett, J. F. Milne, R. A. Neill, R. L. Paterson, Annie B. Price, J. A. Reid, *J. Richard, †Jeannie McC. Robertson, C. N. Robinson, J. F. Russell, F. F. Schorn, A. Sharman, S. Sharman, J. S. Sharpe, J. B. Simpson, N. Smith, P. Spence, A. McD. Steele, J. R. Sutherland, Anne I. Symington, A. C. Thomson, Donella A. F. Watson, W. Watson, E. Yoddes.

* Distinction in surgery. † Distinction in medicine.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY Council meeting was held on April 7th, when the President, Sir Berkeley Moynihan, Bt., was in the chair.

Honorary Fellowship.

The following honorary Fellows, elected by the Council on March 10th last, were introduced and received their Diplomas: Roberto Alessaudri (Rome), Edward William Archibald (Montreal), Frans Ali Bruno Krogius (Helsingfors), Paul Lecène (Paris), René Leriche (Strasbourg), Rudolph Matas (New Orleans), Charles Willems (Liège).

Fellowship.

Diplomas of Fellowship were granted to Messrs. G. F. G. Batchelor and R. W. Jones, who have now complied with the regulations. Sir Henry Gauvain and Mr. Cecil Beadles, members of twenty years' standing, were elected to the Fellowship.

Prizes.

The Jacksonian Prize for 1926 on "The pathology, diagnosis, and treatment of abscess of the brain" was awarded to Mr. E. Miles Atkinson, F.R.C.S. (Bath). The subject for the Jacksonian Prize for 1928 is "The surgical treatment of pulmonary tuberculosis." The John Tomes prize for 1924–26 was awarded to Mr. Herbert Cecil Malleson, M.R.C.S., L.D.S., for his work in connexion with the histology and pathology of the dental tissues.

Mr. Robert Gordon Wilbond of Bristol University was appointed Begley Student for the ensuing three years.

Appointment of Representatives.

Sir Cuthbert Wallace was appointed delegate to attend the celebration of the centenary of University College, London, on June 23rd. The President, Sir D'Arcy Power, and Sir James Berry were appointed as representatives to be present at the coming celebration of the 1,300 anniversary of York Minster on July 1st.

Medical News.

The annual report presented to the meeting of the Hospital Saturday Fund on April 6th showed that the general fund amounted to £79,192. The collections and donations amounted to £77,037, a decrease of £1,713 on the previous year. The total sum received from all sources was £109,769. Though the receipts from business houses, workshops, and factories were affected by the general strike the fund had nearly regained its old position towards the end of the year. The sum of £69,061 had been awarded to hospitals, nursing homes, and other institutions as against £71,604 in 1925. At the conclusion of the meeting the chairman announced that at the present time the fund was £837 in advance of the corresponding period of last year.

A POST-GRADUATE course on diseases of the nervous system will be held at the National Hospital, Queen Square, W.C.1, from May 9th to July 15th. The general course will consist of clinical lectures and demonstrations, teaching in the out-patient department, and pathological lectures and demonstrations. A course of lectures on the anatomy and physiology of the nervous system and clinical demonstrations, chiefly on methods of examination of the nervous system, will also be given. Further particulars can be obtained on application to the secretary of the hospital.

THE Colyer Prize was founded by the Royal Society of Medicine in June, 1926, to commemorate the twenty-five years' service of Sir Frank Colyer as honorary curator of the Odontological Museum. The accumulated income of this fund (about £20) may be used every third year as a prize for the best original work in dental science completed during the previous five years, by a dental surgeon educated at any recognized dental school in Great Britain or Northern Ireland who has not been qualified to practise more than five years at the date of the award. Applications from candidates for the first award should be submitted not later than July 1st, 1928, together with a general account of their researches, both completed and in progress.

THE Fellowship of Medicine announces that a course of clinical and cystoscopic demonstrations will be given at the All Saints' Hospital from May 2nd to 28th; on each Wednesday during the four weeks a special lecture dealing with genito-urinary diseases will be delivered at 2 p.m. Also beginning on May 2nd and continuing for four weeks an afternoon course in psychological medicine will be held at the Maudsley Hospital. A four weeks' course in venereal diseases, including clinical instruction, will commence on May 2nd at the London Lock Hospital. On successive Wednesdays, from May 4th to 25th, Professor McIlroy will give lecture-demonstrations on ante-natal diagnosis and treatment at the Royal Free Hospital, at 5 p.m. An intensive course will be arranged at the Central London Throat, Nose and Ear Hospital from May 9th to 28th, comprising a clinical and an operative course, either of which may be taken separately. As the entry for the operative course is limited early application is desirable. From May 9th to July 15th there will be a course in neurology at the National Hospital, Queen Square. Two courses begin on May 16th at the Infants Hospital and the Hampstead General Hospital. The first course is open to those interested in infant welfare work as well as to post-graduates, and the second is primarily for general practitioners. Copies of all syllabuses and of the *Post-Graduate Medical Journal* are obtainable from the Secretary of the Fellowship, 1, Wimpole Street, W.1.

AMONG the Friday evening discourses to be given at the Royal Institution of Great Britain after Easter is one, on May 13th, by Sir Humphry Rolleston, Bt. Its title is "Concerning old age."

THE annual meeting of the members of the Auxiliary Royal Army Medical Corps Funds will be held at 11, Chandos Street, Cavendish Square, W.1, on Friday, April 29th, at 2.30 p.m., when the annual report and financial statement for the year ended December 31st, 1926, will be presented, and the officers and committee for the current year elected.

THE third lecture on the history of medicine will be given at the University of Durham College of Medicine, Newcastle-upon-Tyne, on Wednesday, April 20th, at 4.45 p.m., by Dr. Charles Singer of University College, London. Medical practitioners in the neighbourhood are invited to attend.

THE annual spring dinner of the Queen's University Belfast Club, London, will be held at the Connaught Rooms, Great Queen Street, W.C., on Thursday, April 21st, at 7.30 for 8 p.m., when Professor J. A. Lindsay, president of the club, will preside.

THE Board of Trade gives notice that representations have been made to it under Section 10 (5) of the Finance Act, 1926, regarding dial (acid di-allyl barbituric), elbon (cinnamoyl para-oxyphenylurea), integrators (planimeter type), R. lead acetate, lipoiodin (ethyl di-iodo brassidate), phytin (calcium magnesium inosite hexaphosphate), planimeters. Communications with the Board regarding these applications should be sent to the Principal Assistant Secretary, Industries and Manufactures Department, Board of Trade, Great George Street, S.W.1, within two months from the date of this notice (March 30th).

APPLICATIONS for the Dickinson Research Travelling Scholarship must be sent to Mr. Frank G. Hazell, Secretary of the Trustees, Manchester Royal Infirmary, by May 2nd. The scholarship of £300 is tenable for one year. Candidates must have graduated with distinction in medicine and surgery at the University of Manchester in any one of the three years immediately preceding the award.

THE Vocal Therapy Society exists to form ex service men into choirs, called the "King's Services Choirs," with a view to promoting the health of war-disabled men through speech, song, and efficient breathing. To the choirs started at the Star and Garter at Richmond, at Beckenham, and at Cheshunt, two new choirs have been added, one at the Ex-service Welfare Society's home in Nightingale Lane, and the "London Centre Choir," for men who have left hospital, in Osnaburgh Street. The report of the Society for 1925–26 records the success achieved at these centres in improving the health and nerves of disabled men. The late Sir Frederick Mott was one of the founders of the Society; and Sir James Dundas-Grant, Sir Bryan Donkin, Sir Robert Jones, and Sir George Makins are among the medical men interested in its work.

THE recipient of the Smith award of the Royal Institute of Public Health this year is Dr. J. R. Kaye, medical officer of health for the West Riding of Yorkshire. The award is made every third year to the medical officer of health considered to have done the most noteworthy work in the discharge of his official duties.

THE issue of the *Deutsche medizinische Wochenschrift* for April 1st contains appreciations of Lord Lister by Professor von Haberer of Graz and Dr. Leo Zumbusch of Liestal, and an autograph letter to the editor in which Lister expressed his regret that his state of health prevented him from contributing to the special number of the journal in honour of Robert Koch.

THE Minister of Public Instruction of the French Republic, having ratified the nomination made by the Council of the Faculty of Medicine of Strasbourg, Professor George H. F. Nuttall, F.R.S., of Cambridge, has been made Professor, *honoris causa*, of the University of Strasbourg.

THE second general congress of psychotherapy will be held at Bad Nauheim from April 27th to 30th.

ACCORDING to official statistics recently published there were 180 fatal cases of influenza in Holland last December.

DURING the academic year 1925–26, 1,242 diplomas of doctor of medicine were conferred by the following French faculties: Paris, 651; Lyons, 166; Bordeaux, 127; Montpellier, 113; Lille, 41; Toulouse, 40; Nancy, 33; Strasbourg, 30; Algiers, 30; and Beyrout, 11.

A JUGO-SLAV oto-neuro-ophthalmological society has recently been founded at Zagreb, with Professor Lapinsky as president.

A SOUTH American Anti-Cancer League has recently been founded at Buenos Aires.

A POST-GRADUATE course in modern methods of treatment will be held at Vienna from June 20th to July 2nd, and will be followed by special clinical instruction in classes. The subjects include endocrinology, the treatment of diabetes, surgical tuberculosis, and syphilis, and the use of *x* rays and radium. Further information may be obtained from Dr. A. Kronfeld, Porzellangasse 22, Vienna IX.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Mediocra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

"D. H." asks for suggestions as to the treatment of tinnitus aurium in a man, aged 64, suffering from locomotor ataxy.

FEES FOR POST-MORTEM EXAMINATIONS.

"H. D."—Under the Coroners Act, 1926 (which comes into force on May 1st next), the following fees will be payable to medical practitioners:

(*a*) For attending to give evidence at any inquest whereat no *post-mortem* examination has been made by the practitioner, one and a half guineas for each day on which he is required to attend;

(*b*) For making a *post-mortem* examination of the body of the deceased and reporting the result thereof to the coroner, without attending to give evidence at any inquest, two guineas;

(*c*) For making a *post-mortem* examination of the body of the deceased (including the making of a report, if any, of the result thereof to the coroner) and for attending to give evidence at an inquest on the body, three guineas for the first day and one and a half guineas for each subsequent day on which the practitioner is required to attend.

INCOME TAX.

Allowance for Wife's Assistance.

"D. L.'s" wife, a trained nurse, dispenses for him and gives him professional assistance in other ways. What allowance can he obtain?

*** Section 18 (2) of the Finance Act, 1920, provides for an addition to the normal (married) personal allowance of £225 where the total income includes earned income of the wife. The maximum addition is £45, or nine-tenths of that earned income. If, therefore, "D. L." were to pay his wife £36 as an assistant she would be assessable on £36, less £6 earned income relief = £30, but the £36 could be deducted as wages or salary in his professional account and nine-tenths of £36—say, £32—additional personal allowance claimed. It may perhaps be pointed out that no real benefit would accrue for 1927–28, as "D. L.'s" earnings would be assessable on the basis of his 1926 profits (when the payment was not being made) and his wife's salary on the actual amount for the year ending April 5th, 1928.

Letting of Unfurnished Rooms.

"J. H. B." refers to our answer to "Overtaxed" in the issue of March 26th and encloses a letter from his solicitors advising that he should continue to bring into his return the receipts obtained from letting unfurnished consulting-rooms.

*** It is, of course, true that taxpayers are called upon to make a return of all their income, but that income has to be calculated according to certain specified rules. In the case of rents derived from unfurnished rooms, there is, in our opinion, no need to regard them as chargeable other than under Schedule A. When the gross annual value of the premises in question was determined it may be presumed that their suitability for such a purpose entered into the estimate, or, if the premises are held on a lease for full rent, that the assessment was made accordingly. Therefore, our correspondent appears to be entitled to regard his liability in respect of the rents for unfurnished rooms as covered by the assessment under Schedule A, which may or may not be liable to increase. One point should perhaps be mentioned: the amount of the rents so obtained would be one factor, amongst others, in determining what fraction of the total value should be deducted as the equivalent of rent paid for that portion of the premises occupied by himself for professional purposes—if he deducts the whole, then obviously he must bring the rents into the account of his earnings.

LETTERS, NOTES, ETC.

"THE LONDON CLINIC."

WE have received for publication the following letter signed by Drs. L. D. Bailey, J. F. Carter Braine, E. P. Cumberbatch, S. L. Higgs, D. Hubble (resident medical officer), Reginald Jewesbury, G. Murray Levick (honorary medical director), Stanley Melville, and C. A. Robinson; together with Lord Dawson of Penn and Sir Thomas Horder (members of the Advisory Committee):

"In view of certain publicity which has recently been given to the London Clinic (founded and maintained by the British Humane Association), we wish it to be known that we have severed our connexion with that body."

BOVINE TUBERCULOSIS: GUERNSEY'S GOOD RECORD.

DR. HY. DRAPER BISHOP (M.O.H. Guernsey) writes: The very low incidence of tuberculosis amongst the cattle of Guernsey is, I believe, fairly well known, if not on this side of the Atlantic, at any rate on the other. During the years 1925 and 1926 the number of cattle tuberculin-tested was 1,950; of this number there was one reactor only.

OPIUM SMOKE AS AN ANAESTHETIC.

IN a note by Dr. G. L. Deshmukh of Bombay, published in the JOURNAL of February 26th (p. 410), he described how, an ordinary anaesthetic not being available, he was able, without inflicting pain, to sew up a wound in a patient who had been given opium to smoke. Dr. W. Macewen of Glasgow inquires how opium is smoked and whether its use could be recommended as an anaesthetic.

*** The method of preparing opium for smoking is described in the *Encyclopaedia Britannica* (eleventh edition) by way of extracts from published statements by Mr. Hugh M'Callum (Government Analyst, Hong-Kong) and Mr. Theo. Samoson (of Canton). The quotations are too long to reproduce here. Briefly it comes to this: the opium is of a treacly consistency and is picked up and twisted on to a sharp-pointed dipper. With acquired dexterity the smoker introduces the pellet of opium into the centre of the bowl of a pipe of special construction. He puts the stem to his lips and holds the bowl over a lamp. The heat causes the opium to frizzle, and the smoker

takes three or four long pulls, inhaling the smoke and afterwards expelling it through nose and mouth. He then prepares another pipe, and so on until he has obtained the effect he desires; the preparation of each pipe takes from five to ten minutes, and the actual smoking about thirty seconds. In China the kind of opium used for smoking is called chundu, and should contain the alkaloids morphine, codeine, and narceine. When smoked it is supposed that the morphine more or less disappears and that some other product of a more pleasing taste is formed during combustion, for the bitterness of morphine is lost in smoking. We are advised that, in people who are accustomed to opium smoking, small operations would be possible under it, but that to introduce it here, when there are other better things to be found, would be foolish. The use of some anaesthetic to ease pain goes back to a remote past, for Homer speaks of nepenthe as used amongst the Greeks, and Herodotus states that the Scythians used to inhale the smoke of burning herbs when operations were being performed; these herbs, it is believed, were a kind of hemp. A Chinese surgeon, Hoa-Tho, used hemp for his surgery. Dioscorides and Pliny, it may be remembered, spoke of the use as an anaesthetic of mandragora, which is said to contain an alkaloid having an action resembling atropine.

A Fatal Case of Salvarsan Poisoning.

DR. G. P. F. ALLEN (Kingston, Jamaica) writes: Dr. T. J. Evans's memorandum in the JOURNAL of January 15th (p. 99) on acute yellow atrophy of the liver recalled to my mind a fatal case of salvarsan poisoning which came under my care some years ago. A girl, aged 15, was undergoing arsenical treatment for syphilis in the out-patient department of the Kingston Public Hospital, Jamaica. She became suddenly ill on returning home after the second or third injection, and I was called to see her. I found her lying in bed speechless. She was profoundly prostrated and vomited bile at frequent intervals. The temperature was 98° F., pulse 93; the respirations were sighing. The eyes were staring and the conjunctiva bile-stained. The liver and spleen were slightly tender, but neither organ was enlarged. Next day the patient had passed into a state of noisy delirium, with muscles twitching. The pulse was soft and feeble, and the rate had increased to 110. The urine was voided in the bed and left a bright yellow stain; none was obtained for examination. Death occurred shortly. A necropsy could not be performed, but all the facts seemed to suggest that arsenical degeneration of the liver was the cause of death.

Migraine and Acetonuria.

DR. JOHN A. GRAHAM (Bethulie, O.F.S., South Africa) writes: I have been a sufferer from migraine since my seventh year, although for many years now I have been able to recognize the prodromata and to abort the attack. Warning signs are great drowsiness without real sleep, trouble in eyesight, difficulty in focusing, etc., and very often not diarrhoea but passage of frequent small motions. When these symptoms appear, or any of them, I find that a couple of grains of calomel, repeated in three or four hours if there is no improvement, or a grain of calomel with a laxative vegetable tabloid (B. W.), prevents the attack from developing. If the attack appears without such warning, as occasionally happens, starvation for the best part of the day, with calomel, and repeated doses of caffeine and phenacetin, effect a cure. But as for glucose, I cannot quite see the rationale. Occasionally there is undoubted acidosis and the headache persists, when a big dose—a couple of drachms—of sodium bicarbonate clears up the condition. Sugar, I think, is one of the things that bring on an attack. I am very fond of sweets, but if I have more than three or four chocolates an attack of migraine is certain to follow. So that the problem remains, as Dr. Allison suggests, whether sugar, as such, is a cause of migraine, or whether it is so in a roundabout fashion, via malassimilation, with formation of acids and acetone.

Relative Shortness of Cord: Retention of Chorion.

DR. C. J. HILL AITKEN (Kilnhurst, near Rotherham) writes: The tediousness of a multipara's labour was explained when the child was born—very blue and with the cord coiled round the neck and round an arm. Half an hour later, the patient having had a good pain, gentle pressure on the fundus uteri, with the patient's effort, finished the third stage. Examination of the placenta showed marked absence of the chorion, which came away six days later. Early separation of the placenta is said to be liable to occur with a short cord. In this case the placenta had been separated from the chorion. It is a problem whether this separation took place while the child was passing through the passages or was caused by the attendant while disentangling the cord. Although retention of the chorion is possibly not very dangerous, it is certainly disquieting. It might be wise in cases such as the above to cut the cord before freeing the child.

Crésopirine.

DR. J. LANDMAN (London, W.1) writes with reference to the paragraph under this heading published on April 2nd (p. 635) to state that in 1914 Messrs. Howards and Sons made under his direction a preparation having the same chemical constitution as the substance prepared by Professors Carrière and Gérard in 1926. Dr. Landman made extensive clinical trials, but was unable to satisfy himself that the substance had any clinical advantage over aspirin. Messrs. Howards made it up in 3-grain tablets, and still have a stock on hand.

The Mediziner.

DR. LIEK, in a little book on the doctor and his vocation,[1] deals in a somewhat discursive manner with questions which from time to time give passing food for thought in the daily round of medical practice. What are we to understand by the ideal physician? Is sickness insurance a good thing in all its aspects? Is the purely scientific spirit looming too largely in our medical curricula and among our practitioners? What are we to think of pseudo-medicine and quackery? How can we best express the relationship between doctor and patient? Questions such as these, which probably pass through the mind of every practitioner at one time or another without receiving any very definite answers, are touched upon in this volume, which, having reached a second edition, presumably supplies a need. Possibly its popularity depends to some extent on its subtitle, "Thoughts of a heretic," for a little heresy is attractive to many minds, especially those of a highly sympathetic cast. The author is mainly disturbed by the prevalence of what he calls the "mediziner"—a disagreeable character for whom we have no corresponding name in our language, because no doubt we have not got such persons. He stands at the opposite pole to Dr. Liek's ideal physician. The mediziner is, if we understand Dr. Liek aright, one whose humanity has been blighted by science, falsely so called. The genus appears to consist of two species: in one the practitioner is so obsessed with his science that the patient disappears as such and assumes the character of a mere pathological lesion; in the other the notion of patient is retained, but there is no recognition of his humanity. An example of the first type is described as an elderly man of somewhat rugged exterior and manner, who has done much to forward operative gynaecology, who can boast of a number of important contributions to the journals, is a brilliant operator, an experienced gynaecologist, a recognized scientist; but every woman who comes to his clinic, whatever may be the cause, is forthwith placed on the table and operated upon. On one occasion Dr. Liek inquired what a woman looked like who did not want operating upon: "there are none such here," was the reply. In this type we have no difficulty in recognizing that professional complaint which goes under the name of "furor operativus." Of the second type we are given a graphic picture, evidently drawn, like the former, from the life. He is a good surgeon, a man of comprehensive knowledge, a born scientist whose name will live in the annals of medicine, a skilful technician, extraordinarily careful and thorough in the investigation of his cases, never performing an unnecessary operation, but brusque to a degree in his manner to his patients, and of a forbidding silence. So far as his patients are concerned he is a surgeon and nothing else, purveying surgery as the grocer purveys groceries, with a purely mechanical and materialistic outlook, not indeed denying the existence of a soul in his patients, but ignoring it. Yet in his family circle and among his friends this forbidding person is humorous, jovial, and sympathetic. The author's humane nature revolts against such inhuman types, and we are not surprised to learn that his ideal physician is none other than the country practitioner, with his genial manners and his interest in his patient's dogs and fishing tackle and babies.

Sun Spots and Sudden Death.

THE increased number of sudden deaths reported in 1926 and the fact that such fatalities occur in groups at irregular intervals is thought by Dr. M. Faure of La Malou to be due to sun spots. During 1922, with Drs. J. Vallot and G. Sardou, he submitted evidence that the passage of these spots over the central solar meridian coincides with the appearance or recurrence of acute crises in various chronic illnesses. At a recent meeting of the Académie de Médecine Dr. Faure returned to this subject, and stated that, whereas an average of thirteen sudden deaths occurred during 100 days on which the solar surface was clear, the mortality rose to twenty-six for another 100 days on which sun spots were visible. He explains this coincidence of solar and clinical disturbances as being due to an interference with "electro-magnetic" radiations, which results in the upsetting of the controlling mechanism of the physical body, comparable with the effects these spots also produce on telegraphic and telephonic apparatus. In patients whose constitutions are so affected by disease as to approach the critical point, when outward signs are manifested an added disturbance of this kind might be expected to produce a response out of proportion to the strength of the stimulus itself. The increase in the number of sudden deaths during 1926 is, therefore, held by Dr. Faure to be directly associated with the occurrence in this year of numerous sun spots. We must leave it to our readers to determine what importance, if any, attaches to Dr. Faure's theory.

Vacancies.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 37, 38, 39, 42, 43, and 44 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 40 and 41.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *132*.

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[1] *Der Arzt und seine Sendung.* Von Erwin Liek. Zweite Auflage. München: J. F. Lehmann. 1926. (6¼ × 9, pp. 140. M.4.)

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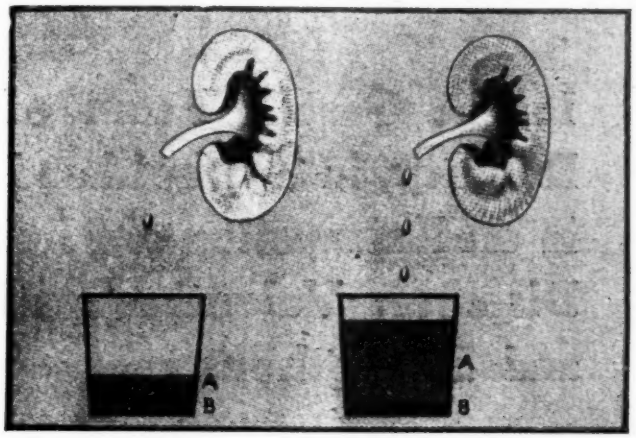

The kidney on the right is influenced by caffein. It is compelled to work harder than normal, and excretes a larger amount of Urine (A). Yet the quantity of ejected salts is equal, while the amount of compact substances (B) is diminished. (Courtesy of Dr. K. B. Lehmann, of the University of Wursburg, and Professors M. Tiffenau and H. Busquet, of the Academy of Science, Paris).

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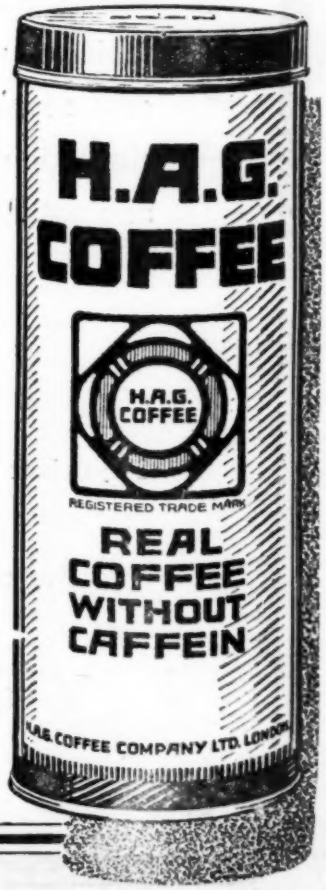

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